

NEW YORK WIRE RAILING WORKS.

WIRE RAILING, GRATINGS, VERANDAS, WROUGHT AND CAST-IRON RAILINGS,
FARM FENCES, IRON FURNITURE, IRON BEDSTEADS, IRON
STATUARY, SETTEES, CHAIRS, &c.



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1855.

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A

NEW PHASE

IN

IRON MANUFACTURE,

EMBRACING

A DESCRIPTION OF ITS USES FOR ENCLOSING PUBLIC SQUARES, CEMETERY LOTS, DWELLINGS,
COTTAGES, OFFICES, GRATINGS FOR STORES, PRISONS, &c., WINDOW GUARDS,
BEDSTEADS, TREE BOXES, VERANDAS, &c.

BY JOHN B. WICKERSHAM.

New York:

FOWLER & WELLS, PRINTERS, No. 308 BROADWAY.

1855.



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PAID
AT NEW YORK

ORNAMENTAL WIRE FENCES,

DESIGNED BY JOHN B. WICKERSHAM, 312 Broadway, New York.

NOTWITHSTANDING the great and constantly increasing abundance of Iron, from its durability and the multiplicity of uses to which it is adapted, it may now be ranked as the foremost among the *precious metals*. Recent improvements in machinery for its manufacture have much enlarged its sphere of usefulness. Its hardness and intractability have been rendered soft and flexible by the powerful embrace of the Steam Engine, and inventive skill has moulded the metal into forms as light, graceful and various, as those hitherto supposed peculiar to the productions of nature, and fabrics of finer and more ductile minerals. New inventions are daily developed for purposes indispensable to every-day comforts. In the construction of houses, and household furniture, whether designed for use or ornament, it is rapidly usurping the place of other materials. The manufacture of wrought-iron has reached a degree of perfection in which it may be applied to numberless uses where strength, durability, and decoration are sought to be combined. The ductility of the metal has been turned to account, and, by the aid of machinery, articles are made which are not only cheaper, but they are also stronger and more beautiful than anything previously constructed.

A peculiar feature of the manufacture has been brought prominently before the public in the construction of fabrics from **WOVEN IRON**,—a process of profiting by the peculiar ductile and tenacious properties of malleable iron in such manner as to produce wrought or woven fabrics in a cheaper and more durable form. It is well known that cast-iron is easily moulded into many different forms, but these patterns admit of little variety compared with the endless combinations of the malleable condition of the same substance. And the lightness, beauty and variety of these combinations do not constitute all the advantage of woven, over the cast-iron fabrics. The *great strength* of the former is their chief recommendation in all situations where violence and “wear and tear” are to be resisted. The minute and careful investigations of Mr. Stephenson, the Engineer of the Britannia Tubular Bridge, have satisfactorily demonstrated the extraordinary powers of Wrought-Iron to resist extension. He demonstrated that this material is capable of resisting a strain of from 16 to 18 tons per square inch, while cast-iron endures only from 3 to 7 tons. Examples further demonstrating this superiority might be multiplied, were the question, in any degree, a disputed one. But enough of generalities. Proceed we to the consideration of **WOVEN IRON** as applied to the construction of **ORNAMENTAL FENCES, VERANDAS, BALCONIES, WINDOW GUARDS, GATES, &c.**

The first manufactory of **WOVEN IRON**, for these purposes, was established some seven years since, and the business then commenced has grown and is still growing, with unprecedented rapidity. Beginning with the simple manufacture of **WIRE FENCES**, the assortment now comprises a very great variety of unique and beautiful patterns. The peculiar nature of this improvement consists in the process of *crimping and weaving bars and wire of any size*. The plan of crossing the wires is so contrived that each binds the other, giving support to every part of the structure. Fabrics manufactured in this manner will endure five times the violence that cast-iron railing in common use is capable of withstanding. Its leading features are newness of style and variety of forms, combining taste and ornament with the utmost permanence and security.

CAST-IRON POSTS.

For style of Cast-iron posts see pattern No 1 and enlarged cut No 15. These ornamental posts are not furnished with the fence, but are charged extra.

Cast-iron posts, for	3 ft. 4 in.	railings		\$2 50 each
do do	4 ft.	do		4 00 “
do do	5 ft. 6 in.	do		7 00 “
do do	6 ft.	do		8 00 “
Wrought-iron posts	3 ft. 4 in.	do		1 25 “
do do	4 ft.	do		2 00 “
do do	5 ft. 6 in.	do		4 00 “
do do	6 ft.	do		5 00 “

Cast-iron ornamental posts are only necessary at corners and each side of gates.

OFFICE RAILING posts are 50 cents each, extra on the above prices. Office Railings which may be selected from any of the following designs, 50 cents per foot additional is charged for putting up, painting, &c.

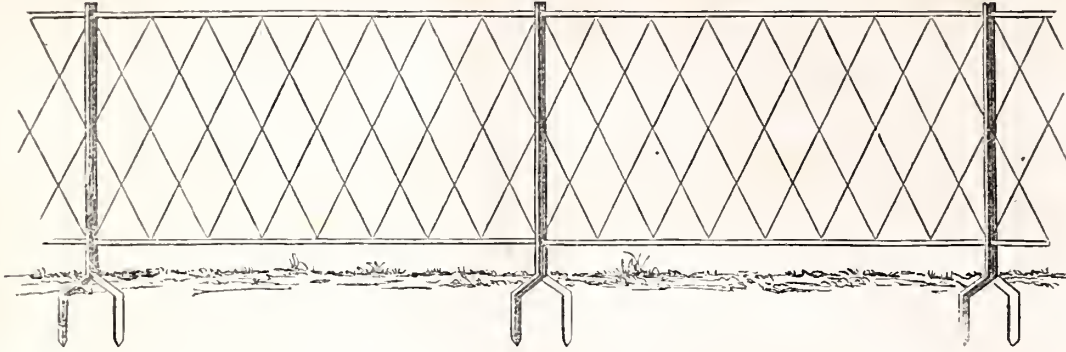
Price for *putting up* work is always additional on the prices following:

BORDERS as in Nos. 5, 6, 13 and 14 may be added to the top or bottom, or both, of the following designs of railings, at an expense of 37½ cents per lineal foot per each border.

No. 6 wire has been found sufficiently strong for Cemetery purposes and Office Railing, while for front door yard enclosures wire ¼ of an inch diameter is preferable, and for public parks and grounds ⅜ of an inch wire is most desirable.

No. 1 Pattern embraces all sized meshes of plain diamond form. It also shows the manner of securing the Panels, and inserting the prongs of the posts in the ground, which is all the security necessary for a movable fence. This is a very desirable pattern for Lawns, &c.

WIRE HURDLE FENCE.



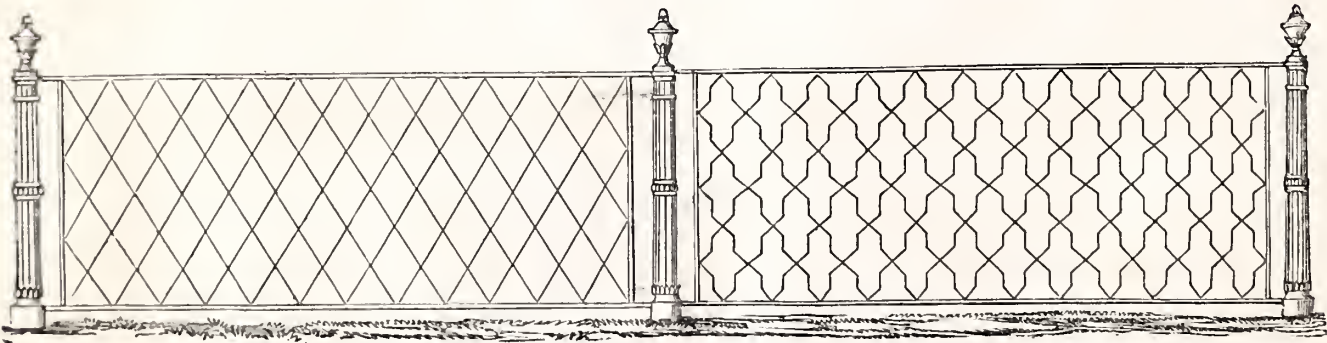
PRICES PER LINEAL FOOT.

No. 1, 9 in. Mesh, No. 6 wire, Hurdle, 3 ft. between bars, when up 3 ft. 6 in.	\$0 65
" 6 in. " " 6 " " " " " " " " " "	85
" 6 in. " " 8 " " " " " " " " " "	75
" 9 in. " " $\frac{1}{4}$ in " " " " " " " " " "	75
" 6 in. " " $\frac{1}{4}$ in " " " " " " " " " "	1 00

No. 1.

FOR CEMETERIES, DOOR YARDS, &c.

No. 2.

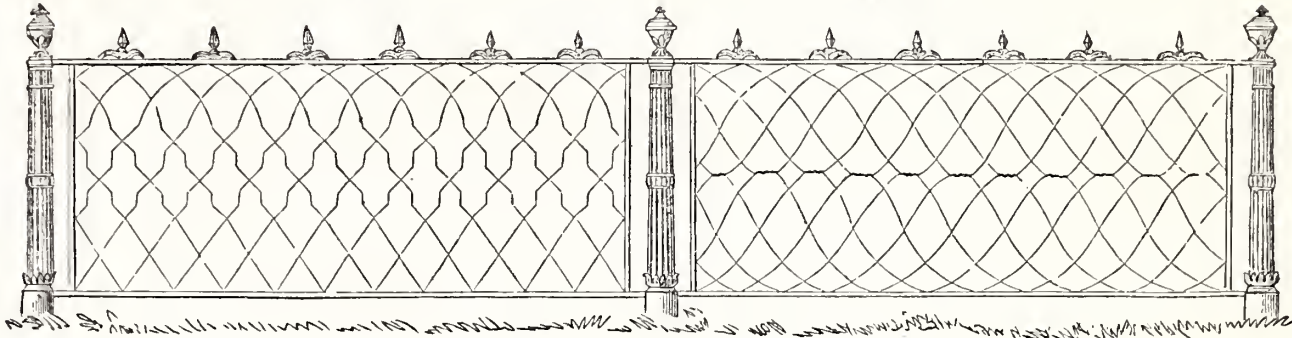


PRICES PER LINEAL FOOT.

No. 1 Pattern—No. 6 Wire $4\frac{1}{2}$ in. Mesh, with pickets, 3 ft. 4 in. from ground to top of picket,	\$1 00
" " $\frac{1}{4}$ in. " " " " " " " " " "	1 25
" " $\frac{5}{16}$ in. " " " " " " " " " "	1 50
" " $\frac{3}{8}$ in. " " " " " " " " " "	2 00
No. 2 Pattern—No. 6 " " " " " " $3\frac{1}{3}$ ft. " " " "	1 00
" " $\frac{1}{4}$ in. " " " " " " " " " "	1 25
" " $\frac{5}{16}$ in. " " " " " " " " " "	1 50
" " $\frac{3}{8}$ in. " " " " " " " " " "	2 00

“BEAUTIFUL RAILING.—Among the numerous striking improvements lately made in Independence Hall, is a very neat and beautiful wire railing, enclosing the statue of Washington, which was put up by J. B. Wickersham. It is a specimen of the Patent Iron Railing. The original and peculiar manner in which this railing is made must cause it to become a great favorite with persons wanting iron railing. It combines strength and durability of material with beauty of appearance, and, being entirely of wrought-iron, can be manufactured into an endless variety of shapes and designs. Many persons will prefer it to the cast-iron railing. It is admirably adapted to cemeteries, verandas, areas, cottages, gardens, &c.

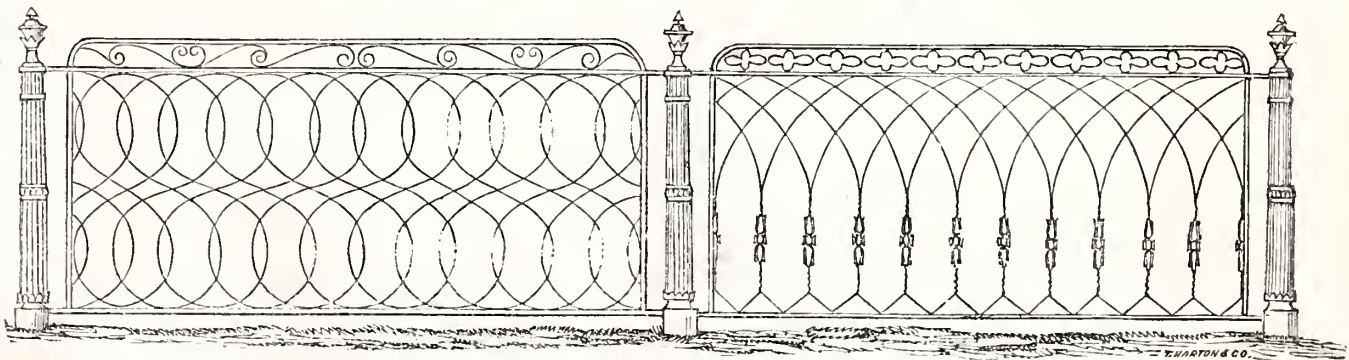
No. 4.



PRICES PER LINEAL FOOT.

No. 3 Pattern—No. 6 Wire, 3½ ft. high, with pickets	\$1 00
“ “ ¼ in. “ “ “ “	1 25
“ “ ⅝ in. “ “ “ “	1 50
“ “ ¾ in. “ 4 ft “ “ “	2 00
No. 4 Pattern—No. 6 “ 3⅓ ft. “ “ “	1 12½
“ “ ¼ in. “ “ “ “	1 37½
“ “ ⅝ in. “ “ “ “	1 62½

No. 6.



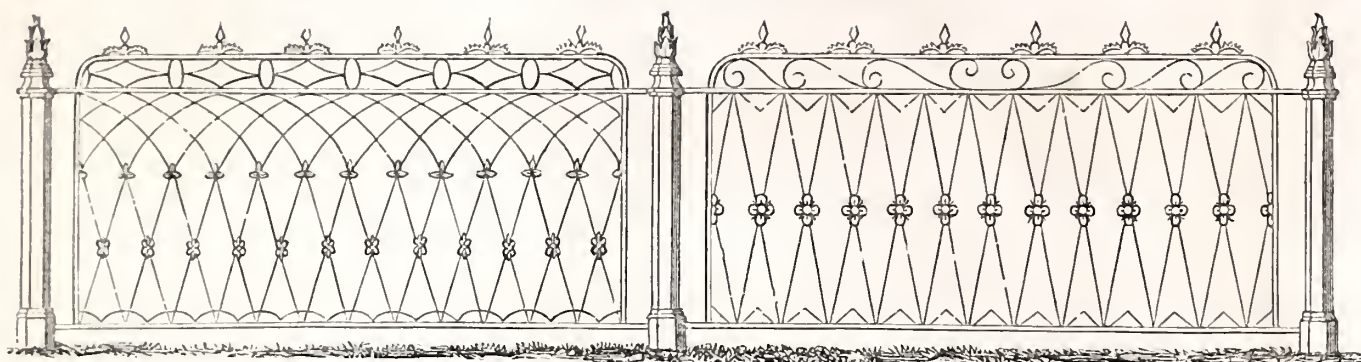
PRICES PER LINEAL FOOT.

No. 5 Pattern—No. 6 Wire,	$\frac{3}{8}$ ft. high,	with pickets,	. . . . .	\$1 00
" "	$\frac{1}{4}$ in.	" "	" " " " " " " " " " " " " " " "	1 25
" "	$\frac{5}{16}$ in.	" "	" " " " " " " " " " " " " " " "	1 50
" "	$\frac{3}{8}$ in.	" "	" " " " " " " " " " " " " " " "	2 00

With border, 37½ cents per lineal foot extra. This is a very neat pattern, and has been selected to enclose the galleries of the House of Refuge, at Philadelphia, Pa., and at Baltimore, Md.

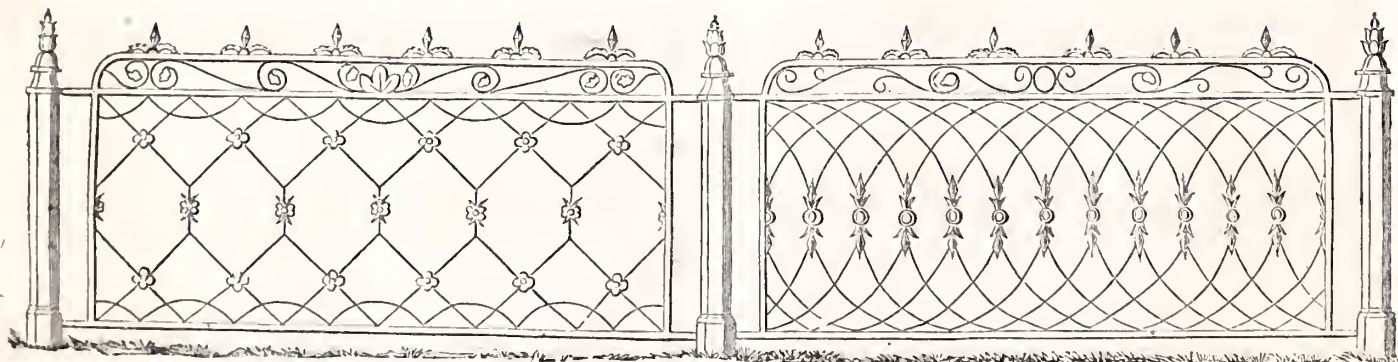
No. 6 Pattern—No. 6 Wire,	$3\frac{1}{2}$ ft. in height,		\$1	$62\frac{1}{2}$
" "	4 " "	"	1	94
" "	$\frac{5}{16}$ in. " "	"	2	$12\frac{1}{2}$
" "	$\frac{3}{8}$ in. " 4	"	2	75

If wanted without border, $37\frac{1}{2}$ cents less per lineal foot.



No. 9 Pattern—No. 6 Wire, $3\frac{1}{3}$ ft. in height	\$1 50
“ “ $\frac{1}{4}$ in. “ “	1 75
“ “ $\frac{5}{16}$ in. “ “	2 00
“ “ $\frac{3}{8}$ in. “ 4 “	2 75
No. 10 Pattern—No. 6 Wire, $3\frac{1}{3}$ ft. in height	1 50
“ “ $\frac{1}{4}$ in. “ “	1 75
“ “ $\frac{5}{16}$ in. “ “	2 00
“ “ $\frac{3}{8}$ in. “ “ 9 inch mesh	1 50

No. 12.

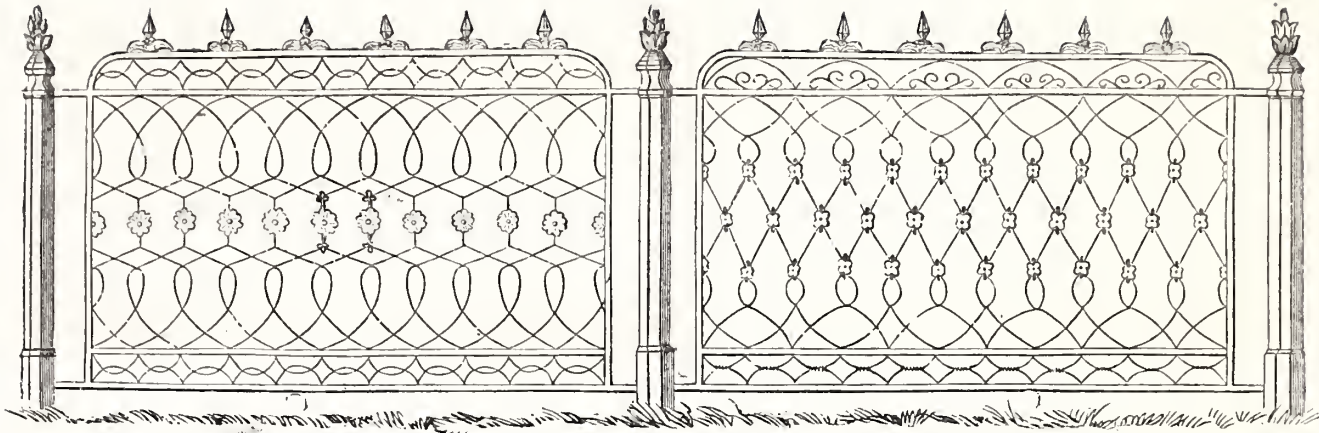


Patterns Nos. 11 and 12—No. 6 Wire	3 $\frac{1}{3}$ ft. height, without borders	\$1 25
“ “ “ “	$\frac{1}{4}$ in. “ “ “ “	1 50
“ “ “ “	$\frac{5}{16}$ in. “ “ “ “	1 75
“ “ “ “	$\frac{3}{8}$ in. “ 4 “ “ “ “	2 25

With border, 37½ cents per foot extra.

No. 13.

No. 14.

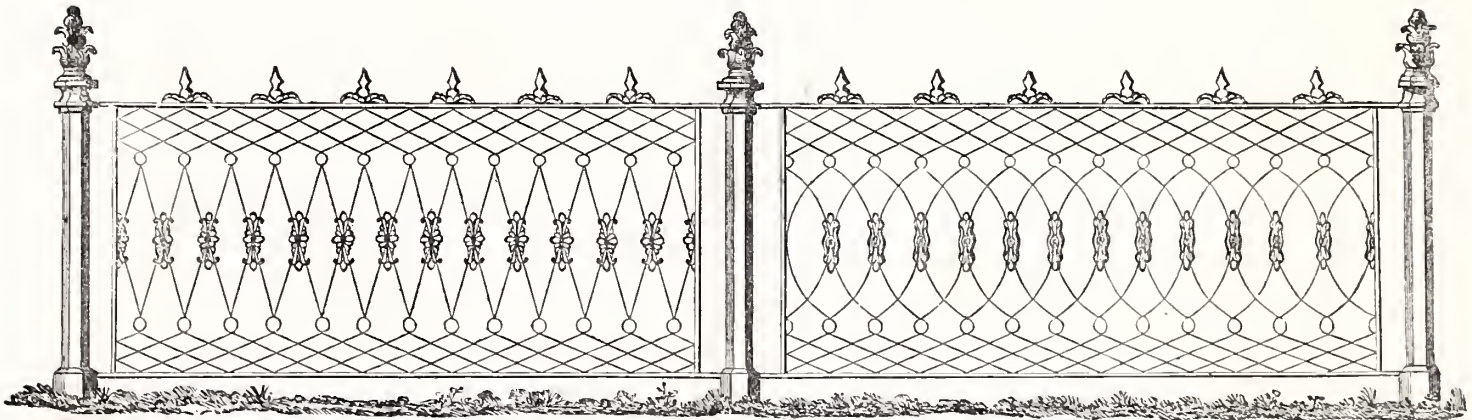


PRICES PER LINEAL FOOT.

Patterns 13 and 14—No. 6 Wire	$3\frac{2}{3}$ ft. in height, with borders	. . . . .	\$2 50
" " " 4 " " " " "	" " " " " " " " " " " "	. . . . .	2 75
" " " $\frac{5}{16}$ in. " " " " "	" " " " " " " " " " " "	. . . . .	3 00
" " " $\frac{3}{8}$ in. 4 ft. 6 in. " " " "	" " " " " " " " " " " "	. . . . .	4 00

No. 15.

No. 17.



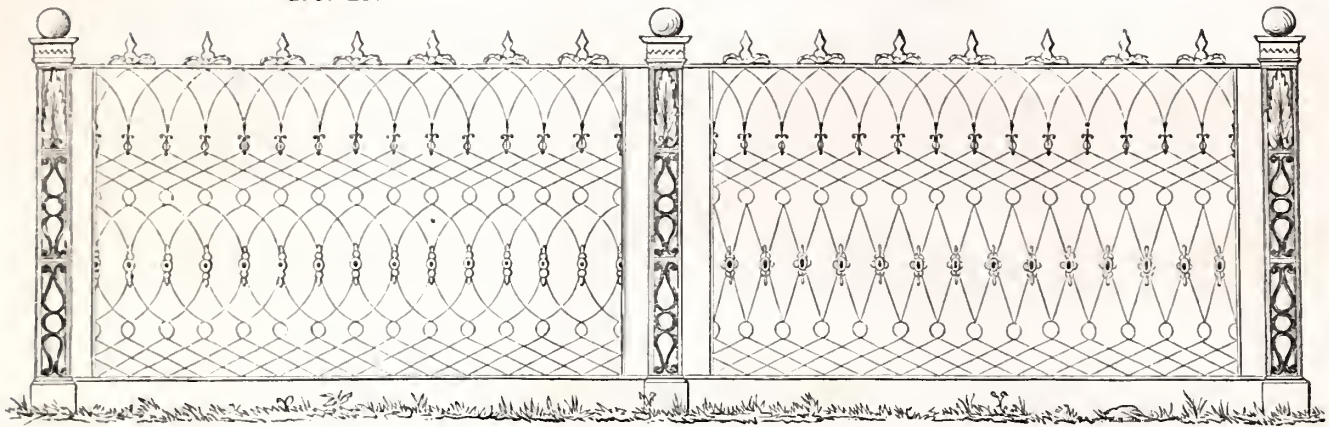
PRICES PER LINEAL FOOT.

Nos. 15 and 17—No. 6 Wire, $3\frac{1}{3}$ ft. high	. . . . .	\$1 25
" " " 4 " " " " " " " " " " " "	. . . . .	1 50
" " " $\frac{5}{16}$ in. " " " " " " " " " " " "	. . . . .	1 75
" " " $\frac{3}{8}$ in. 4 " " " " " " " " " " " "	. . . . .	2 25

With top or bottom border, $37\frac{1}{2}$ cents additional; with both, 75 cents. No. 17 was selected by the authorities of Charleston, S. C., to enclose the Battery in that city. These patterns are generally preferred to all others.

No. 19.

No. 18.

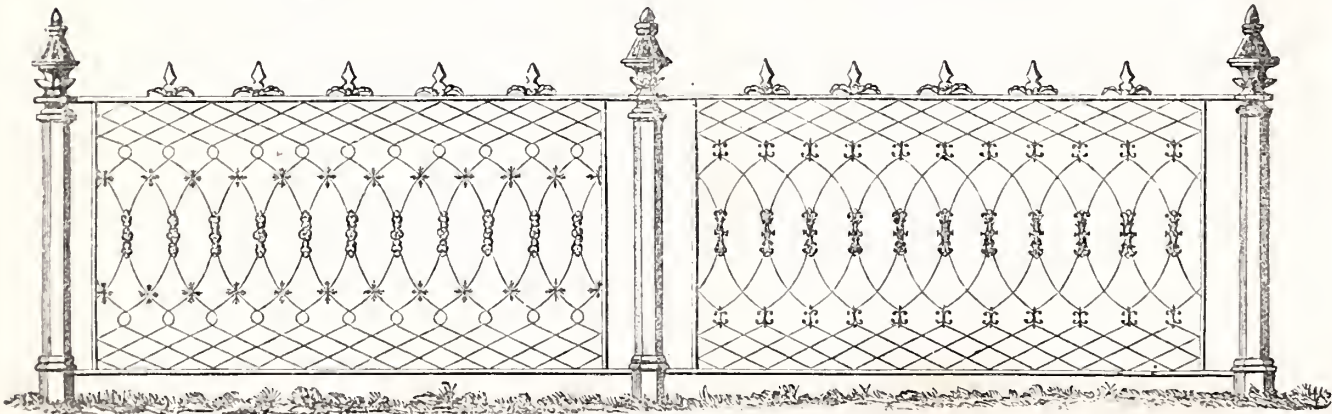


PRICES PER LINEAL FOOT.

Nos. 19 and 18, $\frac{1}{4}$ in. Wire 4 ft. high,	\$2 00
" " " $\frac{5}{16}$ in. " "	2 25
" " " $\frac{3}{8}$ in. " $5\frac{1}{2}$ "	3 00

No. 20.

No. 21.



PRICES PER LINEAL FOOT.

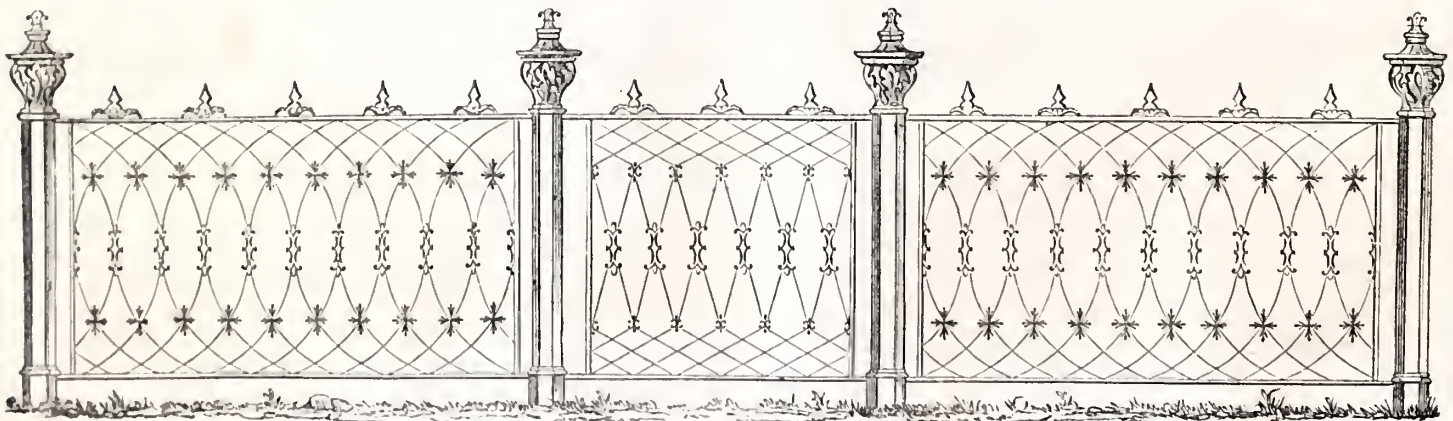
Nos. 20 and 21—No. 6 Wire, $3\frac{1}{2}$ ft. high, without border	\$1 75
" " " " 4 " " "	2 00
" " " " $\frac{5}{16}$ in. " "	2 50
" " " " $\frac{3}{8}$ in. " "	2 75

With the centre row of Rosettes only these patterns can be furnished at the same prices as No. 15. With border at top or bottom, $37\frac{1}{2}$ cts. per foot additional; at both top and bottom, 75 cts.

No. 22.

No. 23.

No. 22.

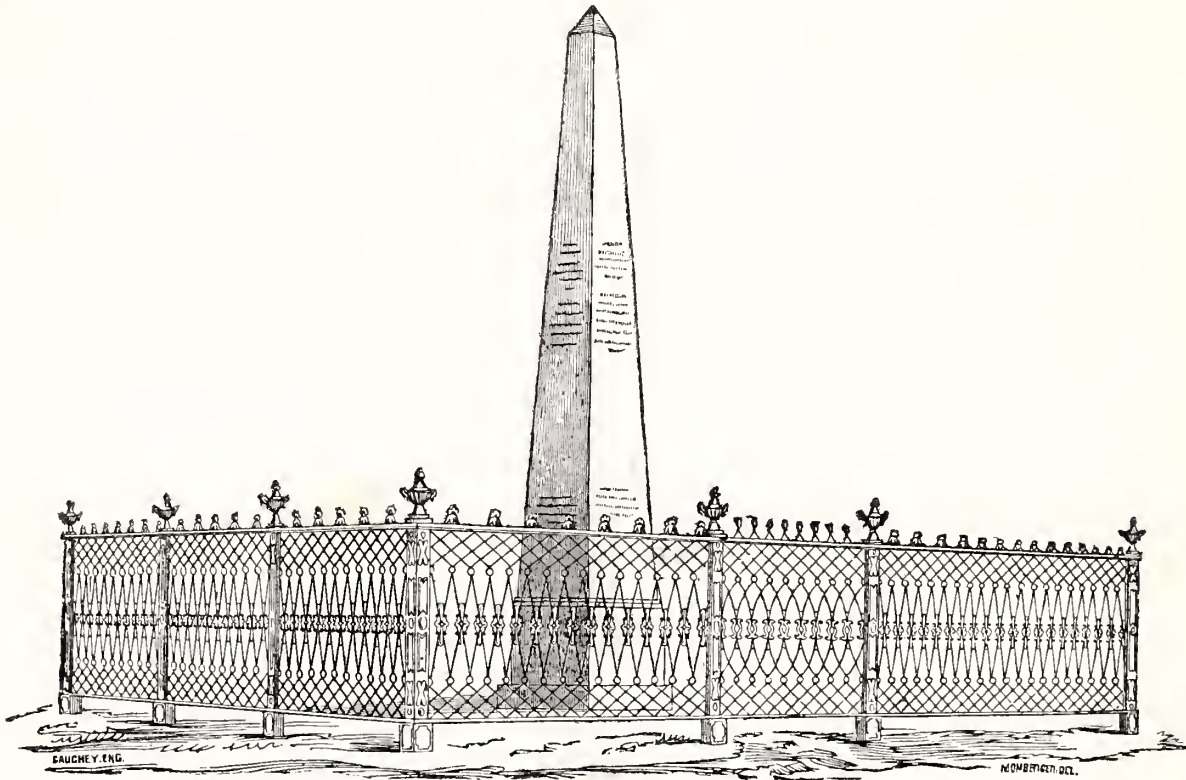


PRICES PER LINEAL FOOT.

Nos. 22 and 23—No. 6 Wire	3½ ft. high, without border,	\$1 75
“ “ “ “ 4 “ “ “ “	“ “ “ “	2 00
“ “ “ “ 2 “ “ “ “	“ “ “ “	2 25
“ “ “ “ ¾ in. “ 4 ft. “ “	“ “ “ “	2 75

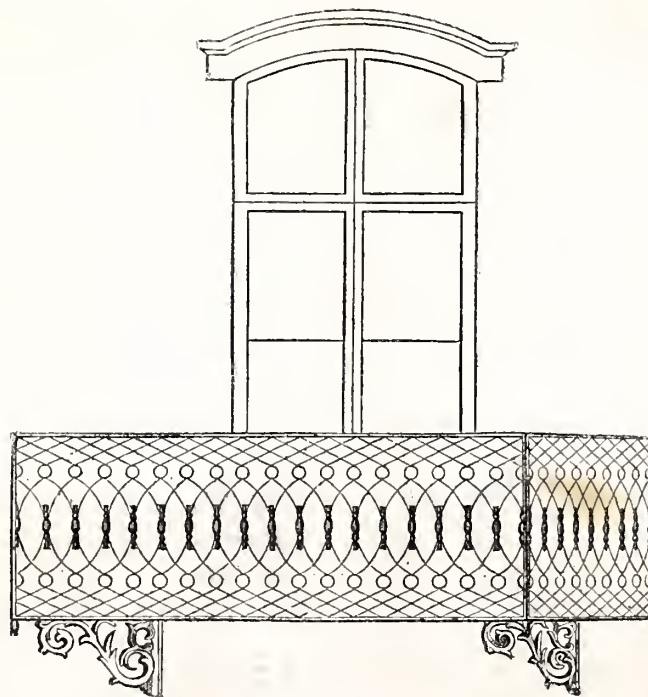
Additional price for borders same as above. In each of preceding Patterns, for an extra foot in height, the price is increased $\frac{1}{3}$ per foot. For each extra row of rosettes at the intersections of the wires, 25 cents per foot is charged. Small Gates (No. 23) from \$2 to \$4 extra.

CEMETERY ENCLOSURE.



Civilized mankind in all ages of the world have bestowed great attention on the adornment of places of sepulture for their dead, and the marks of affection which render our Cemeteries so agreeable and inviting to the eye, may be traced to the same causes which founded the mighty monuments of old. Yet the modern testimonial of respect and affection for the departed differs from the ancient in the substitution of well-arranged grounds and tasteful appliances in place of cumbrous monuments. For the enclosure of Cemetery lots there is nothing so good and ornamental as iron wrought into the above style, and the patterns before given. It has already been extensively applied at Greenwood, Mount Auburn, Laurel Hill, the Congressional Grounds at Washington, the Philadelphia Odd Fellows', Mechanics', and Monument Cemeteries; at Greenmount, Baltimore, Cypress Hills, New York Bay, and elsewhere, where the enclosures have been noted for the beauty of their pattern and finish, and the substantial character of their workmanship. Enclosures manufactured in this manner can be furnished as cheaply as simple chains and posts, and at *one-half the cost of cast-iron*. The enclosures are made of every pattern, which are furnished at the respective prices given previously under the appropriate numbers.

No. 17.—BALCONY.



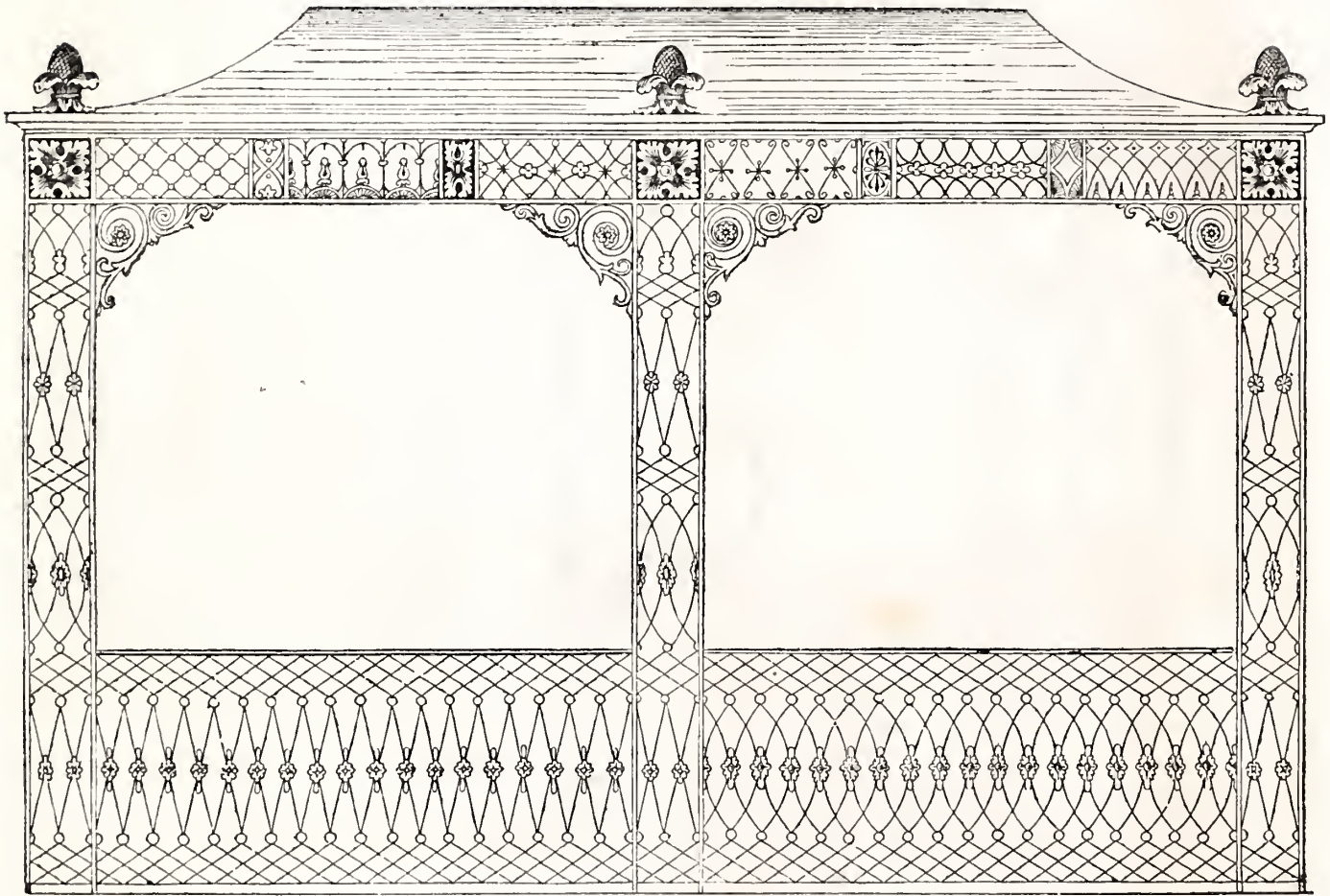
The above cut represents one of many patterns beautifully adapted for Balconies, for public and private edifices. A Balcony is always a desirable addition to any mansion, and a luxurious resting-place in the pleasant weather of summer. Yet these conveniences have been less and less used because of their great cost, weight, and cumbrous aspect; and so long as they are constructed of cast-iron, these objections cannot be removed. By the use of wrought-iron, however, these difficulties are obviated. With half the weight, the latter material endures severer usage, yields to sudden concussions without being fractured, admits of alterations, and possesses the properties of lightness, strength and ornament. The time spent in the examination of these patterns, their uses and prices, will not be lost to those purposing to build, either in town or country.

No. 19.—AREA RAILING.

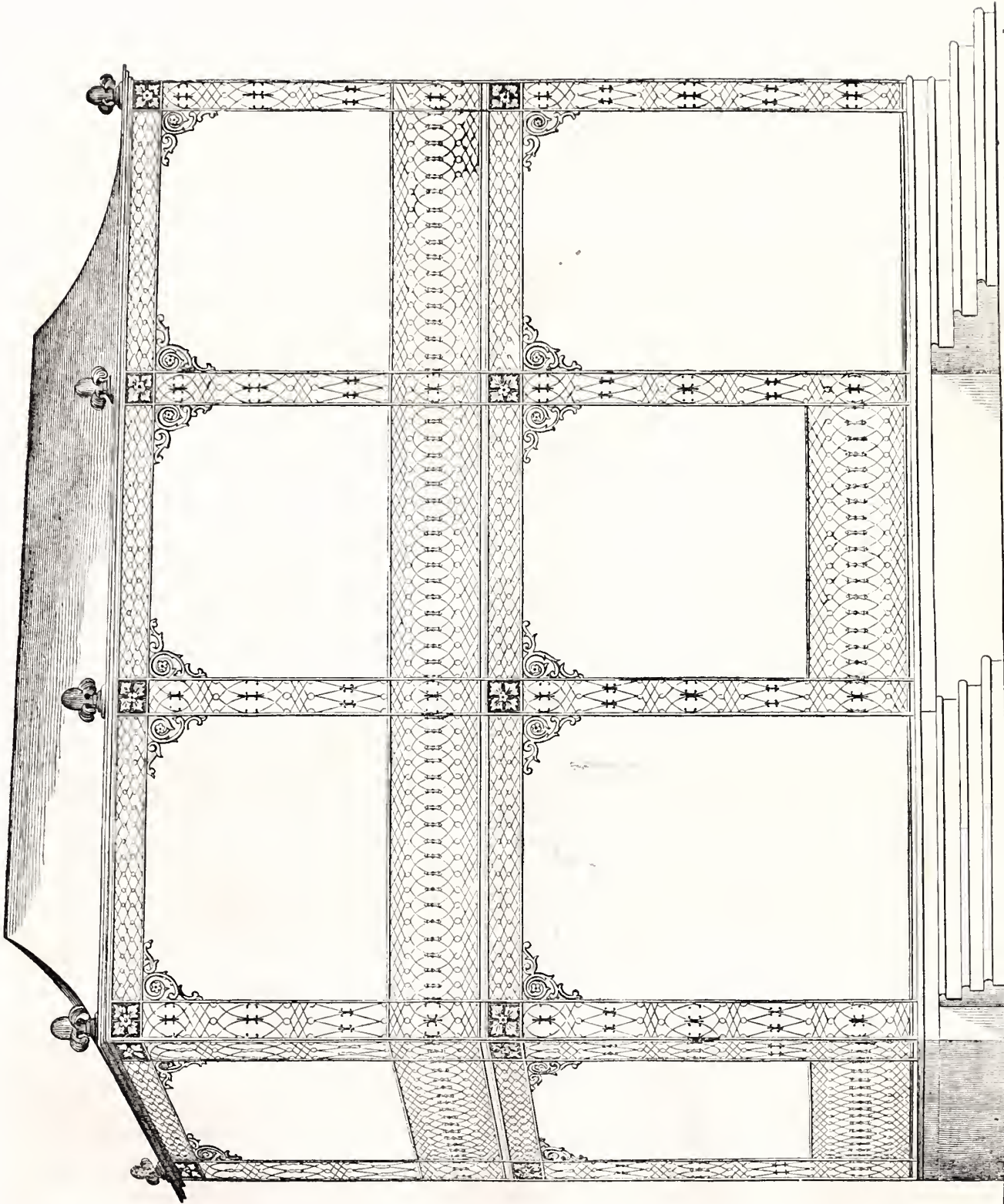


This style of railing is furnished at the same prices as Nos. 18 and 19, above, and is peculiarly adapted to the purpose represented in the above cut. In lightness, grace and beauty, it possesses many advantages over the clumsy and expensive cast-iron area railing and gates heretofore in use.

No. 30.—VERANDA.

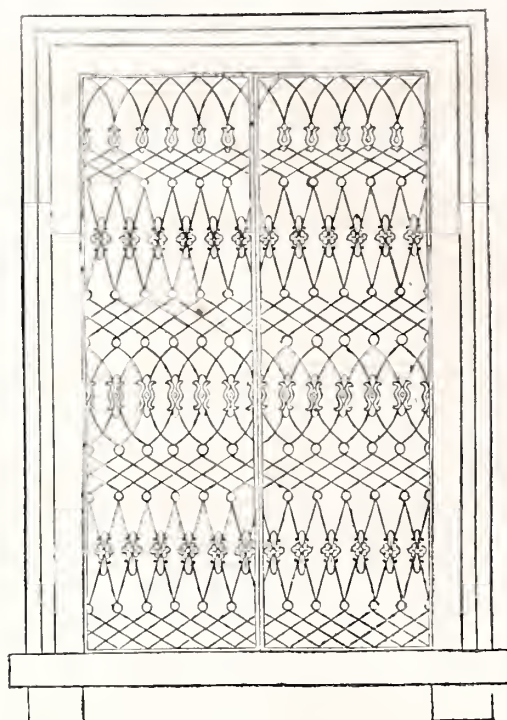


The true ornament of a properly appointed dwelling is a handsome complement of Gates and Verandas. A country seat especially is never complete without a well-constructed and breezy Veranda, where the pleasant summer twilights and balmy evenings steal quietly upon you, and the softest zephyr comes pure and fresh, unimpeded by hot and stifling walls. The graceful and open iron fabric which forms the only perfect Veranda, is unapproachable in lightness, convenience and beauty. It is as far superior to clumsy wood as cultivation is to sterility, or civilized taste to barbarism. The above is an engraving of a very beautiful and *recherché* style of Veranda. Any of the other patterns of railing can be used if preferred. The remarks previously made with reference to the perfect adaptedness of wrought-iron in the construction of Balconies, apply equally to these conveniences.



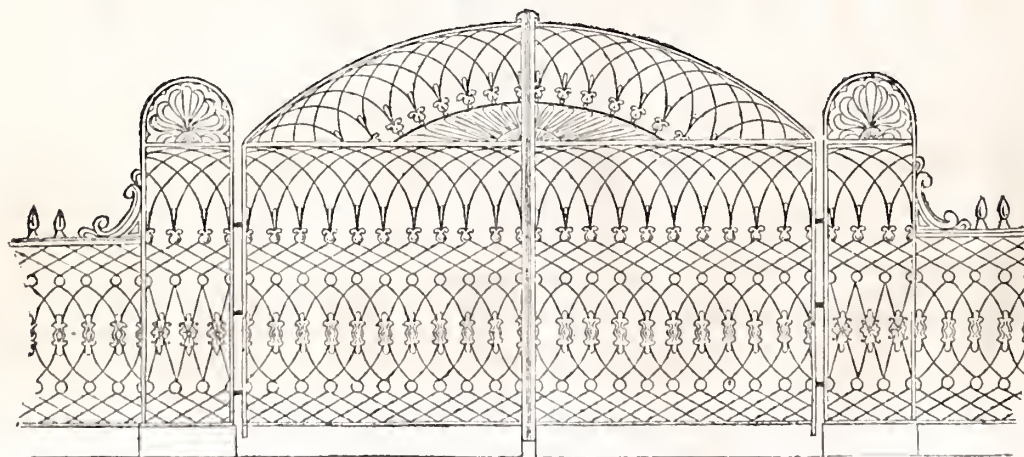
The above engraving represents another and more elaborate style, two stories in height, combining the utmost lightness, grace and utility, with lowness of price. When compared with the clumsiness of the old-fashioned wooden and cast-iron structures, its immeasurable superiority becomes immediately apparent.

No. 32.



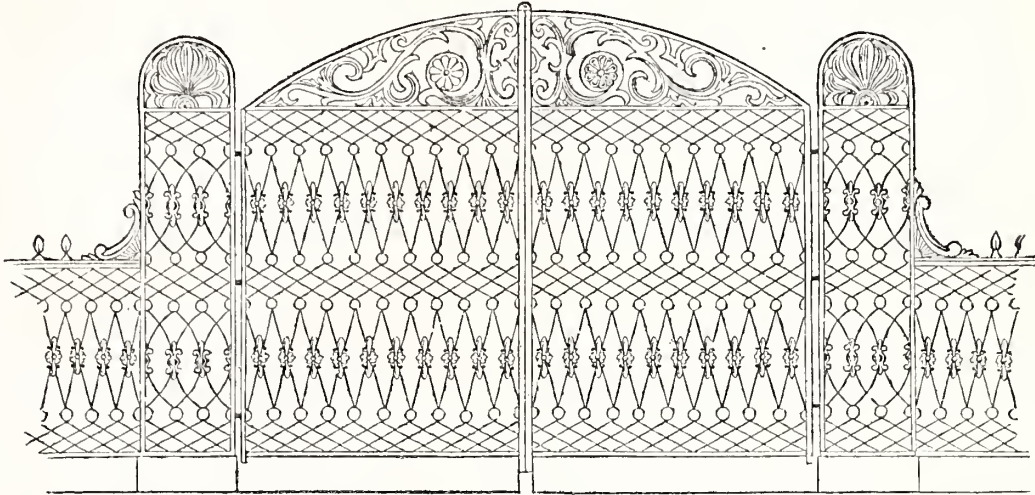
The construction of Window Guards, Gratings, and similar appliances, is one of the most extensive and successful departments in the manufacture of woven iron. For these purposes this fabric combines many excellent qualities. It does not obstruct the light, is an ornament wherever employed, and at the same time is sufficiently strong for security. Conservatories cannot be adequately protected by other means than an exterior wire netting; with this fixture they are perfectly secure from breakage. The ornamental windows of churches may be secured against damage by the use of these wire guards. Gratings for stores, dwellings and steamers are readily made of any required size of wire. Specimens of this style made of half-inch rods are capable of resisting any degree of hard usage; but the smaller sizes are woven with greater facility, and are equally serviceable where great strength is not required. They are admirably calculated for protecting the windows of Lunatic Asylums, admitting air and light, avoiding all appearance of a prison or place of compulsive confinement, and having upon the inmates a cheerful instead of gloomy influence, and yet preventing damage. Lighter styles will be found useful for the protection of hot-air flues, for drains, skylights, steps, door-work, and many purposes to which they have only to be experimentally applied to insure entire satisfaction. Patterns Nos. 1, 2, and 25, are peculiarly fitted for these purposes, and can be put up at the rate of 50 cents per square foot. Prices vary for different styles, from 40 cents to \$1 per square foot.

No. 32.—Style of Entrances to Forsyth Place, Savannah, Ga.



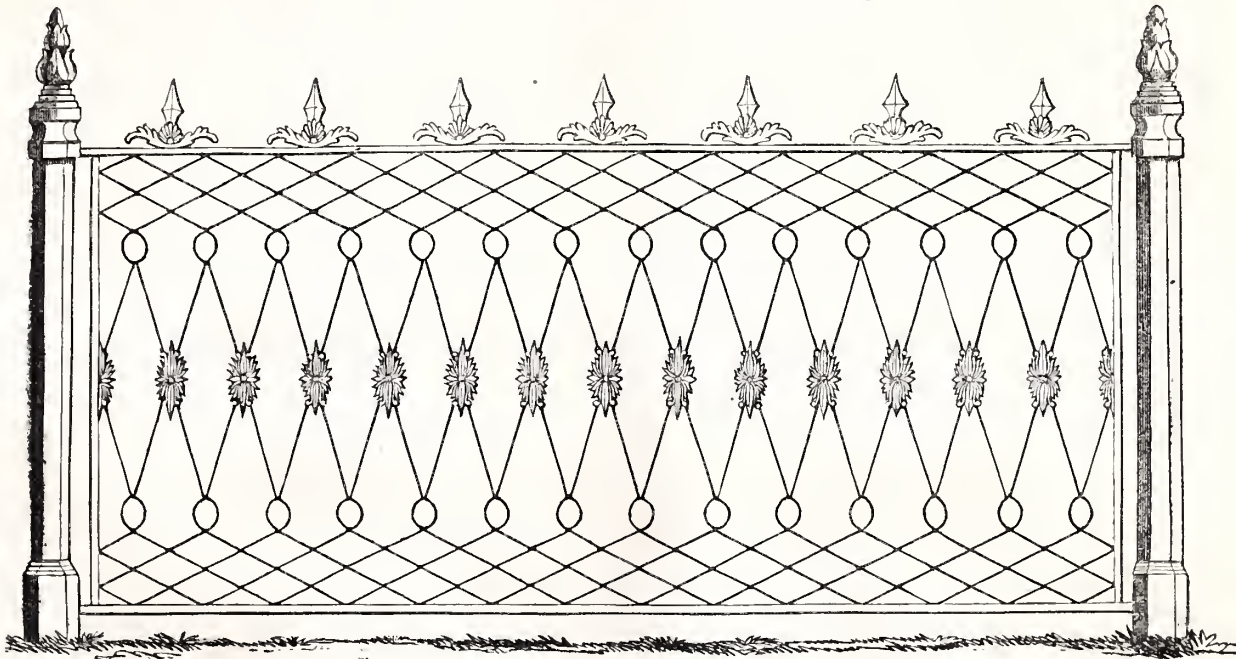
Of equal importance with Balconies and Verandas to the surroundings of a tasteful country or city residence, are neat and *effective* Gates. They should not only be light and graceful, but also strong and durable. They should both *open* and *shut* with equal ease and permanency. These are the characteristics of the preceding and following Patterns. The former has been adopted by the authorities of Savannah for their Park. Nothing superior has ever been constructed to protect the entrance to enclosures of any kind. Prices for $\frac{5}{16}$ inch wire \$7 per lineal foot; $\frac{3}{8}$ inch \$10.

No. 33.



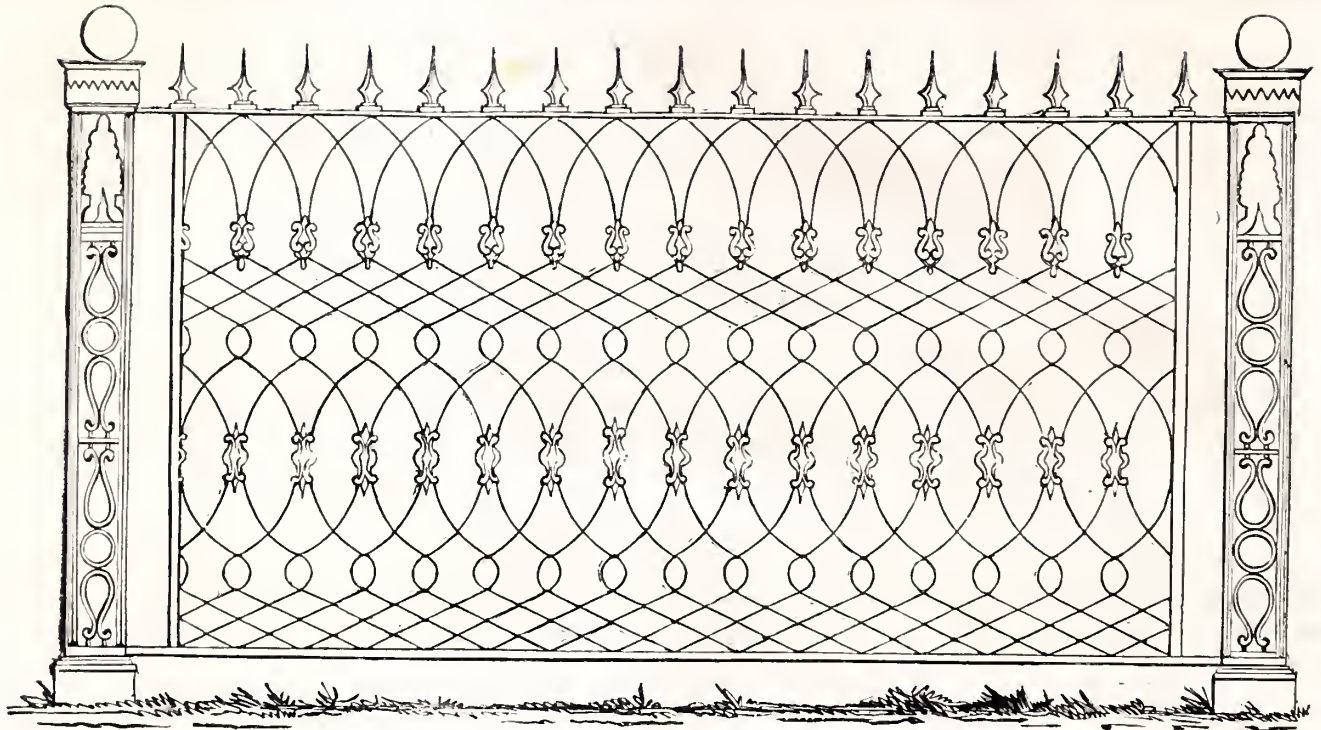
The above pattern differs slightly from the preceding, and is furnished at the same prices. Any other desired pattern can be substituted for either. $\frac{5}{16}$ inch wire \$7 per lineal foot; $\frac{3}{8}$ inch wire \$10.

No. 34.



The above engraving is an enlarged view of Pattern No. 15, showing the style of posts most commonly used and the manner of securing the panels. They are furnished at an extra charge of \$2 50 each, for 3½ feet railing, \$4 for 4 feet do., \$7 for 5 feet 6 in. do., and \$8 for 6 feet do. They are only necessary at the corners of the enclosure and each side of the gates.

No. 35.



The above is an enlarged view of Railing Pattern No. 19, showing another style of posts, of cast-iron, forming a hollow square, and surmounted by an appropriate cap. Price for these posts \$10 each.

This pattern, $\frac{3}{8}$ wire, encloses Forsyth Place, containing more than ten acres, in Savannah, Ga. This fact alone is sufficient voucher for its excellent qualities.

Railing of all the foregoing patterns can be so constructed as to entirely exclude the use of posts, except what the panels form by bolting together, which is the cheapest form of putting up.

MINERS' COAL AND ORE SCREENS.

The wear and tear of cast-iron when used for screening Ore or Coal is too well known to require comment. The remarkable extensile power of wrought-iron—eighteen tons per square inch, or nearly treble that of cast-iron—admirably fits it for the screening of heavy masses of Coal or Ore, the wires bending and shaping themselves anew under the most sudden concussions, without any disturbance of the meshes of the screen. Besides this great power of resisting extension, it is ascertained by conclusive experiment that Wrought-Iron will wear for a longer period under these circumstances than Cast-Iron. There is a total absence of the cutting and rasping which so soon proves destructive to the old patterns.

Ore-screens of wrought-iron have been made of the length of twenty-five feet, and even more, and have worked admirably; proving an additional saving in cost and bulk. They are now used for the screening of Anthracite Coal throughout the Coal region of Pennsylvania, and have been productive of substantial profit and economy. They are also in use in all the principal coal yards of Boston, New York and Philadelphia. The process of their manufacture is similar to that of the Railing, the wires being made of any desired size, from $\frac{1}{8}$ in. to 1 in. in diameter; shaped, crimped and interwoven in a very secure and expeditious manner. For parties engaged in mining operations in any part of the country, or in foreign countries, there is nothing so well adapted; while they are comparatively light and easy of transportation.

PRICES PER LINEAL FOOT.

No. 27— $\frac{1}{4}$ inch Wire, with piquets, 3 feet 4 inches high	\$1 50
No. 27— $\frac{5}{16}$ " " " " " "	1 75
No. 27— $\frac{3}{8}$ " " " " " "	2 09
No. 28— $\frac{3}{8}$ " " " " " "	1 50

The above designs are adapted to places where a heavy fence, in appearance, is needed. — Handsome patterns for cemetery purposes.

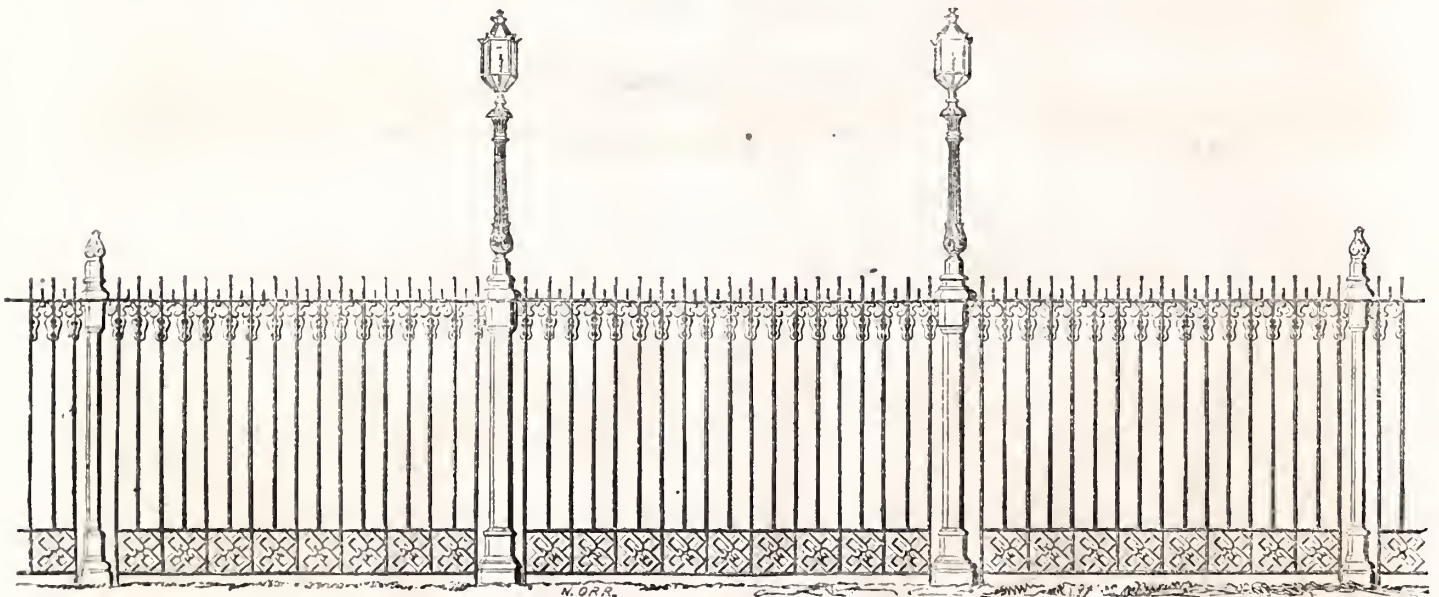
CAST AND WROUGHT-IRON RAILINGS.

The constant and increasing demand for Railings for various purposes has induced the manufacturer to extend his business into this branch, which enables him to suit all classes and different forms of architecture, from the lightest to the most massive designs, embracing every pattern now manufactured in this city.

Particular attention is paid to the manufacture of ENTRANCE GATES, for country villas, public grounds, &c.; among which will be found, the heavy and massive gates at the Crystal Palace—each measures horizontally 66 feet—the largest gateways in the United States; also, the gateways of the Augusta and Waynesboro' Railroad Co., Ga., which measure in length 44 feet.

The following are a few of the cast and wrought-iron designs of Railing for various purposes:

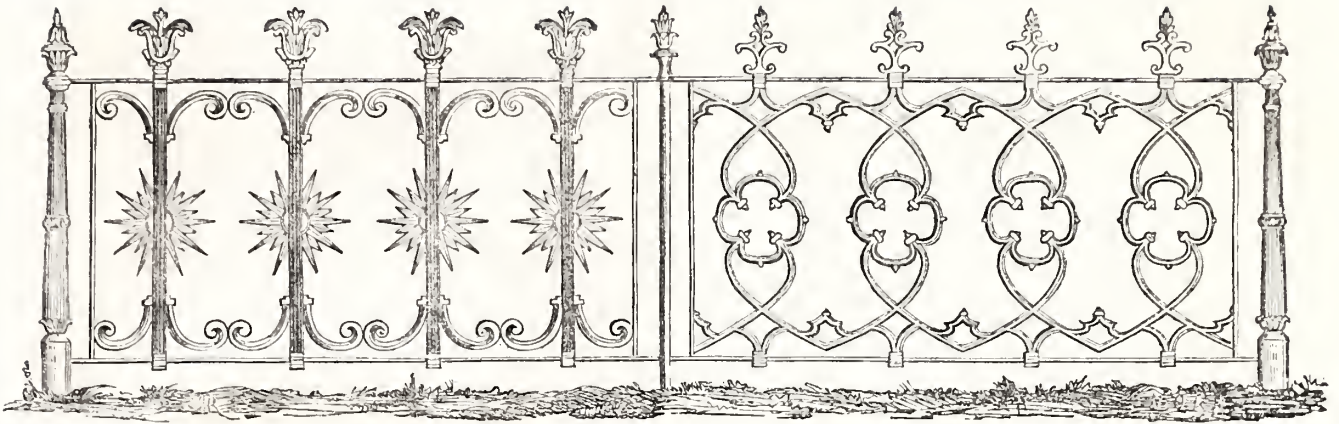
No. 100.



The above design is made of wrought and cast-iron, and surrounds the outside of the Crystal Palace, \$7 per foot. Price for Lamp Posts, as above, \$25 each.

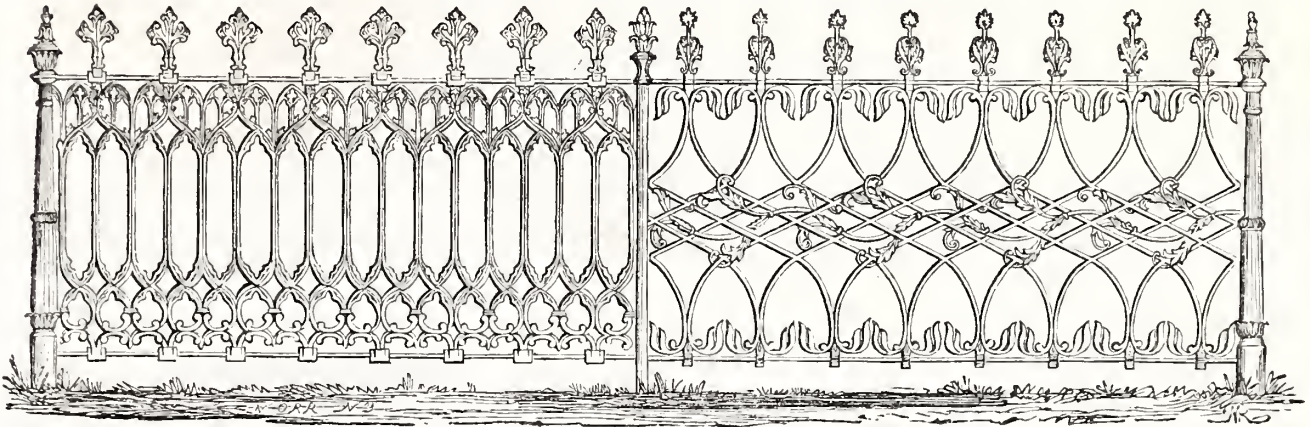
No. 101.—\$1 37.

No. 102.—\$1 37.



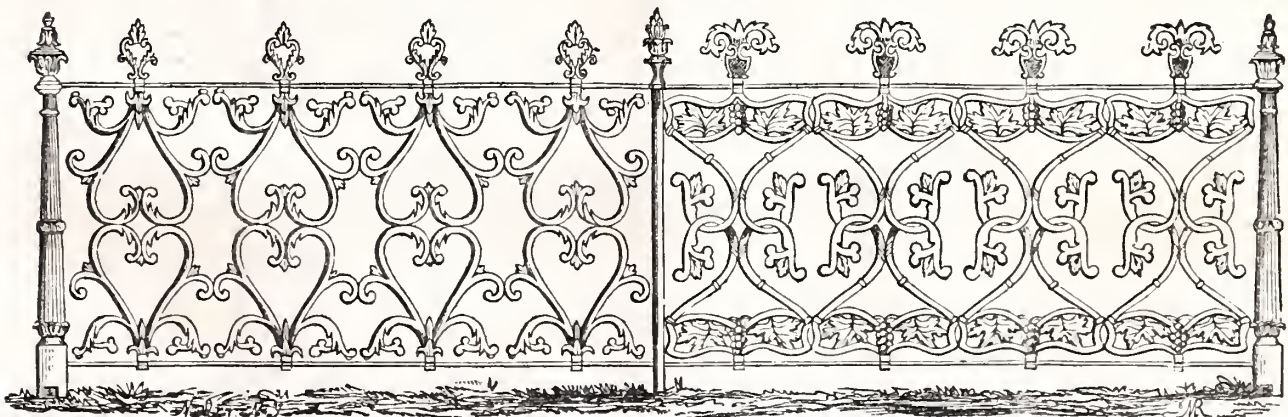
No. 103.—\$2 25.

No. 104.—\$1 75.



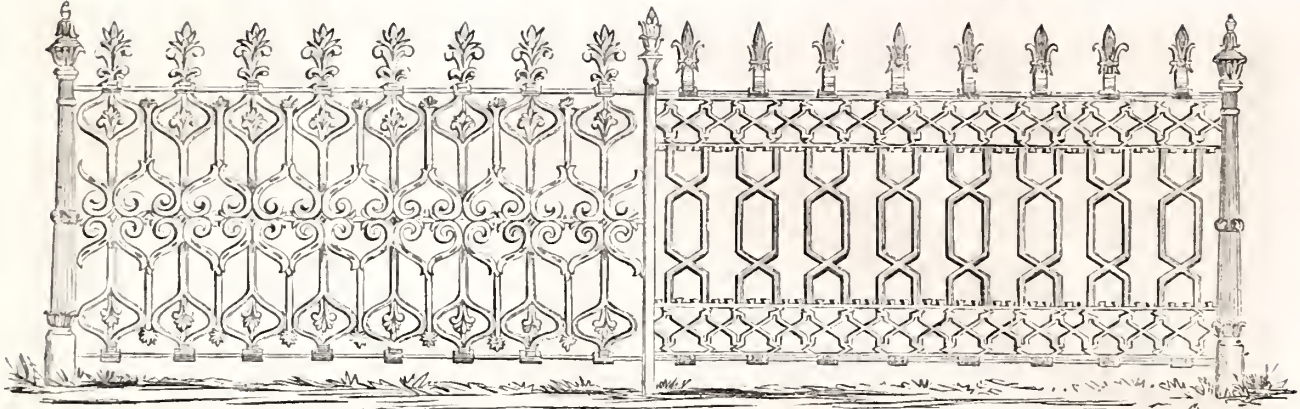
No. 105.—\$1 75.

No. 106.—\$1 75.



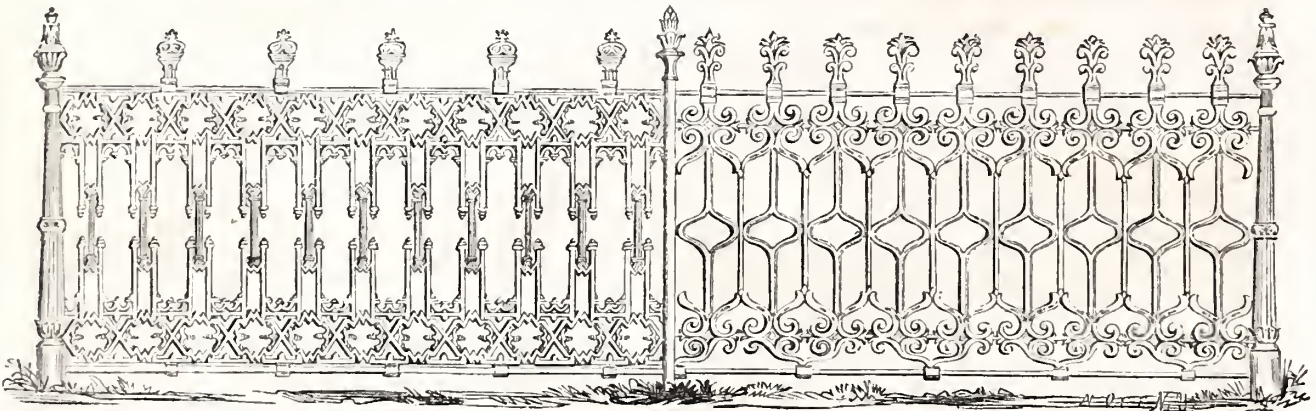
No. 107.—\$2 00.

No. 108.—\$2 00.



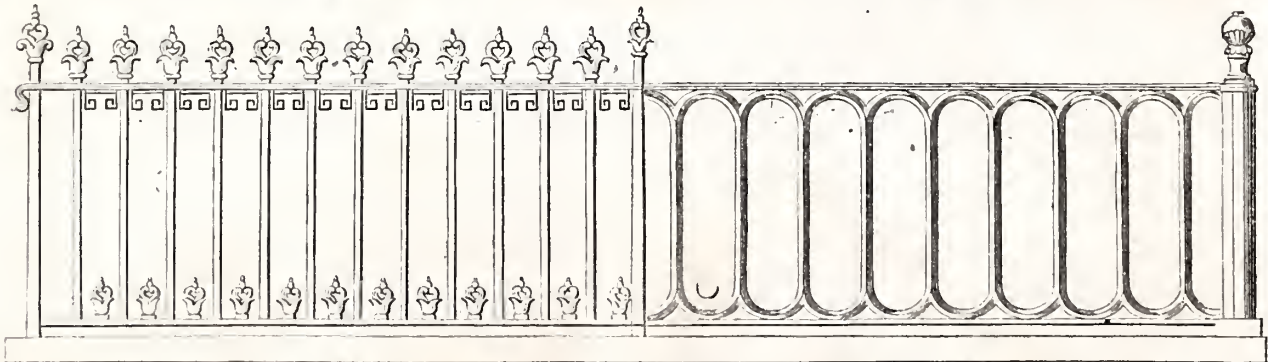
No. 109.—\$2 00.

No. 110.—\$2 00.



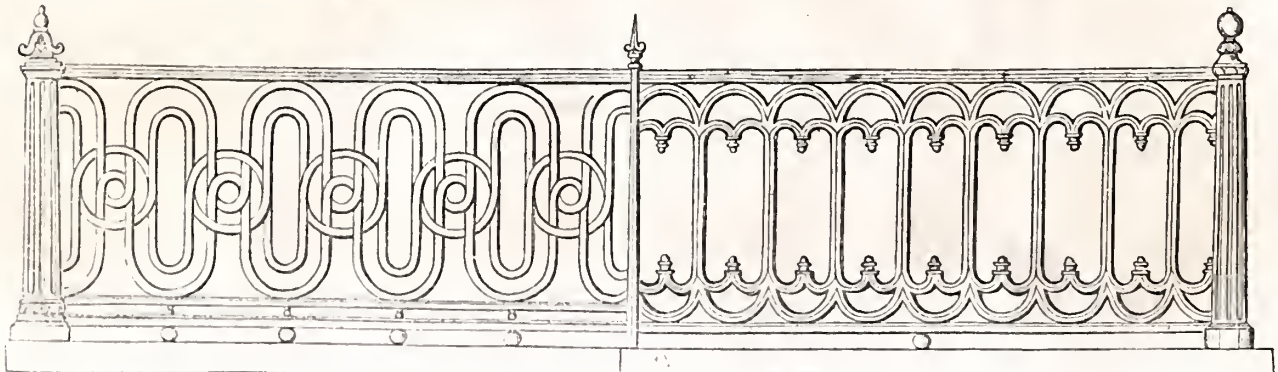
No. 111.—\$2 50.

No. 112.—\$2 00.



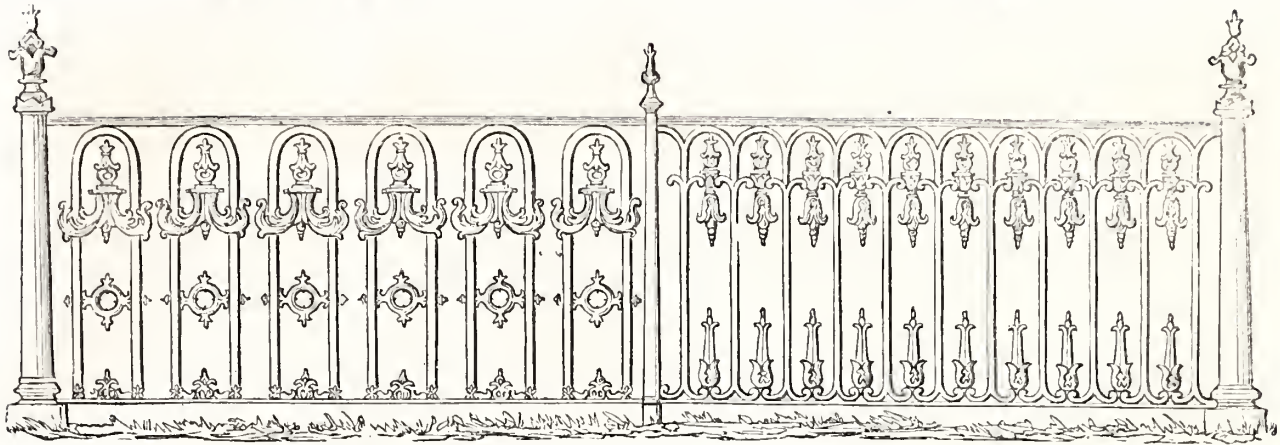
No. 113.—\$4 00.

No. 114.—\$3 00.



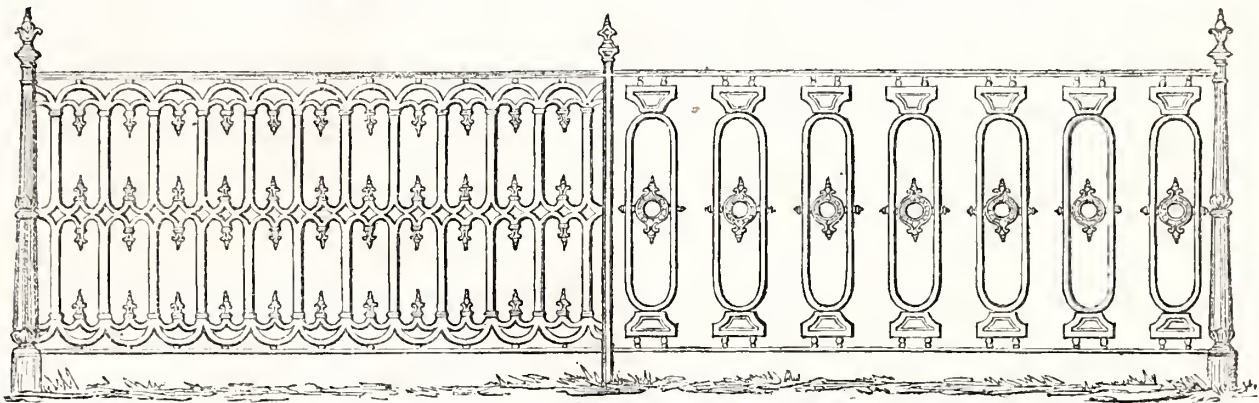
No. 115.—\$2 00.

No. 116.—\$2 00.



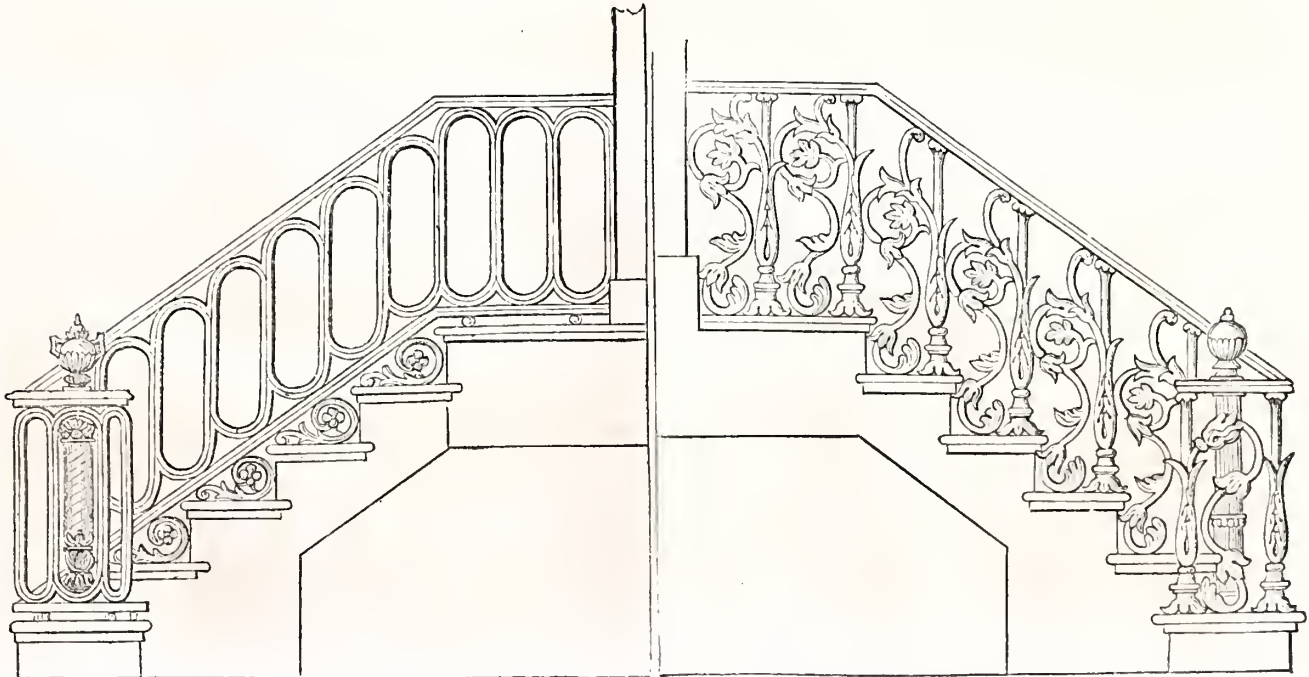
No. 117.—\$3 00.

No. 118.—\$1 50.



No. 119.

No. 120.



RAILROAD AND FARM FENCES,

Patented July 1st, 1851, and March 9th, 1852,

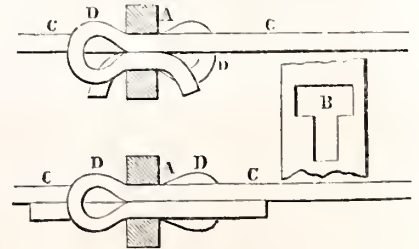
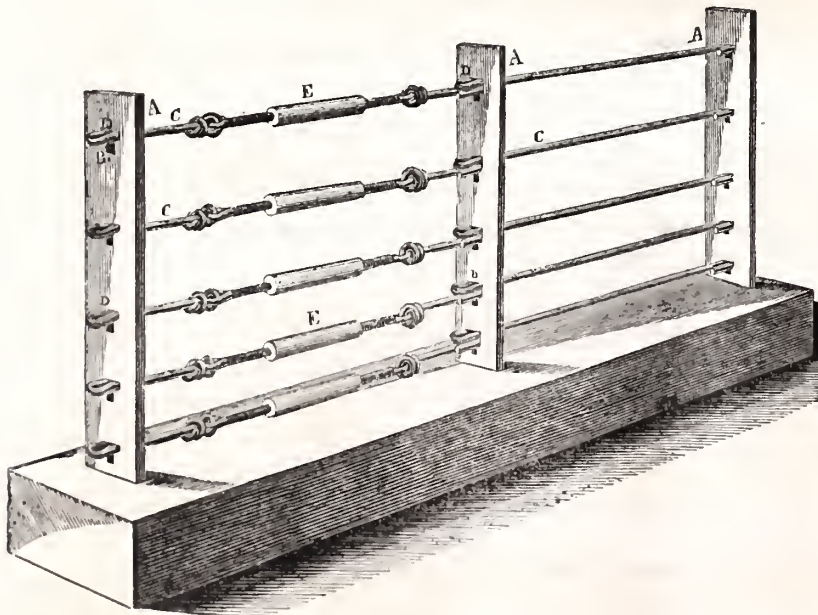
BY

JOHN B. WICKERSHAM.

The most simple form of the manufacture of iron is its application to Farm Fences. The era of crazy posts and rickety tottering rails is passing away with advancement of the useful arts. Not to speak of the vast amount of valuable timber employed, or rather wasted, in the construction of the old-fashioned "worm fence," the homestead is made awkward and unsightly by its use. The advantages accruing from the use of the Wire Fence will cause it speedily to take the place of all other material, combining, as it does in an eminent degree, the properties of strength, lightness, portability and beauty—the view of the landscape being at the same time entirely unobstructed.

The fences are made with horizontal wires tightened by means of an effective arrangement, so that *the whole tension of the rod is obtained*. The posts are furnished with contrivances of different patterns for security in the ground. The size of the rods varies in accordance with the wishes of the purchaser, or the uses for which the fence is designed. No ordinary domestic animal will break through fences of considerably less than $\frac{1}{4}$ inch wrought wire, while still larger sizes may be used with the same facility if required. In the partial and hitherto unsuccessful application of Wire Fences to farm purposes, a great defect has been the want of competent manufacturers, and the loss of resistance occasioned by a lax tension of the wires. These difficulties have now disappeared, and iron Fences bid fair to be the future boundaries of every domain.

The explanation of the cuts is an extract from the specifications whereon the patent was granted. A short examination only is necessary to perceive its simplicity and adaptedness to the required purposes. The posts are simply driven into the ground.



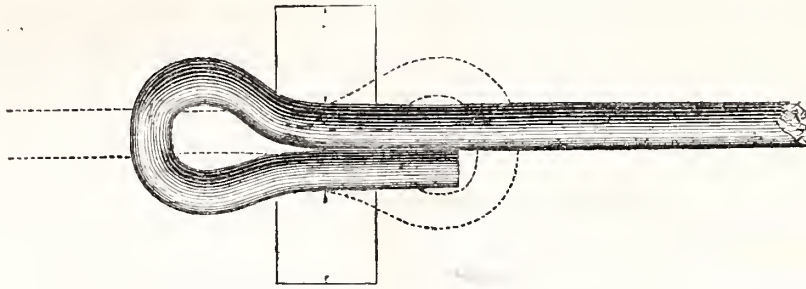
The accompanying engraving is a perspective view, fig. 1: and a vertical section through one post, fig. 2, of the Patent Wire Fence. The same letters refer to like parts. A represents the posts, which may be flat bar iron, having in them any suitable number of T shaped mortises, and which may have either end of the mortises up; or the mortises may be square or oblong, as seen at B. The rails, C, may be made of round, flat, or any other shaped

bars or rods, either in whole or in part. Said rails have loops turned upon both of their ends; and when they are to be inserted in the post hole, B, they are to be slipped through the hole far enough to escape the turned end of the loop, and then turned half round and drawn back, which will bring them to the position shown in fig. 1, in which position they cannot be turned to draw them out; the loops fill up the entire space, one resting upon the other, and the shoulder in the mortise will not admit of their being raised. The rails cannot be withdrawn until slipped back, and then turned half round. To prevent this being done, the loop is bent out on both sides of the posts, as seen at fig. 2, and the rail then cannot be drawn out on either side. By this means a rigid and strong fence is made with few pieces, little labor, and at a low price; only single posts are used, and no keys, bolts, or wedges, are required—the mortises and loops are substitutes for the keys and ties in other wire fences.

At suitable distances on a line of fence, say at about every one hundred yards, more or less, there are placed screw buckles, E, for letting out and screwing up the fence, to compensate for the expansion and contraction of the metal, if necessary; but in practice it has been found that the elasticity of the loops, upon which the horizontal strain is exerted, is nearly quite sufficient for such expansion or contraction. The screw buckles are of more essential service in putting up the fence and equalizing the strain upon the posts when put up.

The posts, rails, &c., are all prepared by machinery, and may be made of any size, shape, and material, packed up into fagots for easy handling and transportation, and can be set up by any person who has the least skill in fence making. The posts are usually set about 16 inches into the ground, and made tight in their places by ramming gravel or stone alongside. The improvement is certainly a most excellent one in wire fences, one that offers superior advantages to any other. For farmers it is certainly an important improvement. The wire used for the rails is a quarter of an inch in diameter—smaller is not recommended, as cattle are not liable to notice a smaller size. The posts are planted about 12 feet apart, and the height is about $4\frac{1}{2}$ feet.

The following cut exhibits the natural size of the wires most commonly used in farm fences, and the manner in which they pass through and support the posts, and are supported by it:



The advantages and peculiarities of this style of fence are:—

1st. The rails are formed in such a manner that by simply passing them through slots in the post, it is impossible to remove them, and this without the use of bolts, wedges, screws, or any other fastening.

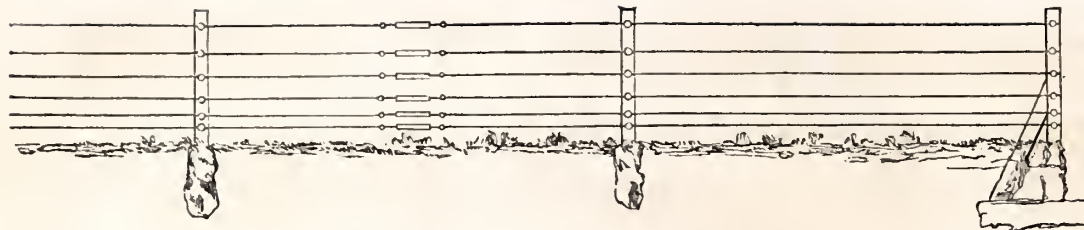
2d. It is manufactured and ready for use before shipment. It is much more easily put up than any other fence, as the necessity of digging post-holes is almost entirely obviated; simply driving the posts into the ground, or making a hole with an iron bar, being sufficient security.

3d. The rails being made straight and the coil taken out, if one breaks it is easily replaced, and does not recoil into its former shape, thereby endangering the limbs of domestic animals that might get entangled in its folds, as in other varieties.

4th. The rails do not depend upon the post for support, but receive and resist the strain upon them; hence, if any posts should break the fence remains good.

MANNER OF PUTTING UP THIS FENCE.—It is absolutely necessary that the straining pillar, or starting post, of wood or iron, at the extreme ends of the fence, should be perfectly firm, as the wires cannot otherwise be made tight. Commencing from a tree is recommended, if possible. Plant the posts 12 feet apart, hook in the rails, and at the distance of 150 feet place a screw on each wire. Place the next set of screws at the distance of 300 feet, and so continue.

The wire used is one-fourth inch in diameter. The posts are formed of one piece $1\frac{1}{2}$ by $\frac{3}{8}$ inch. Height of fence $4\frac{1}{2}$ feet.

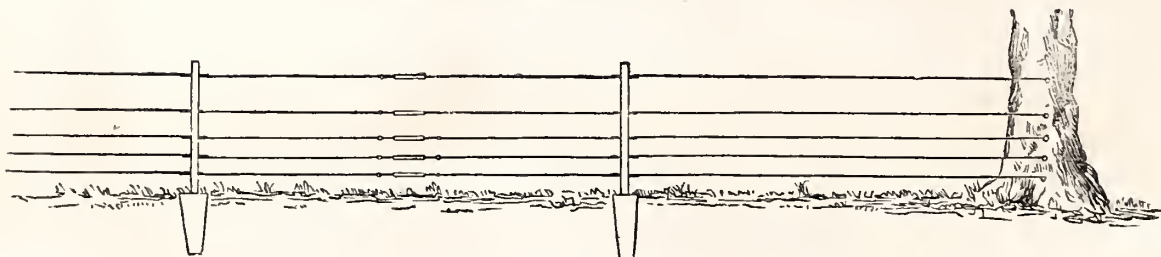


PRICES PER ROD.

5 Rail Fence 4½ feet high, with screws, exclusive of posts	\$1 38
7 "	1 77

Each additional wire 20 cents per rod.

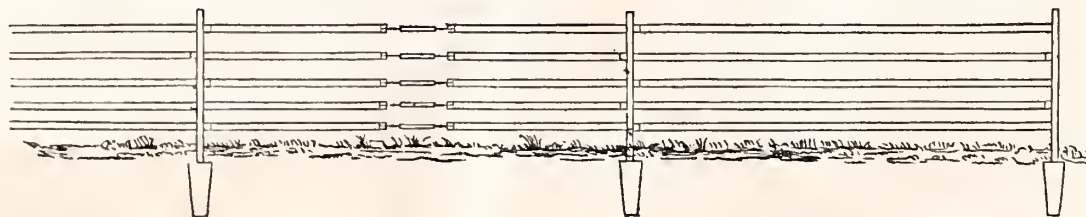
No. 28.—With Iron Posts.



PRICES PER ROD.

For Cattle and Horses, 3 Wires, with Iron Posts and Screws	\$1 66
“ “ “ 4 “ “ “ “	1 84
“ “ “ 5 “ “ “ “	2 00
“ Hogs, Sheep, &c., 7 “ “ “ “	2 40
“ Turkeys, Geese, &c., 10 “ “ “ “	3 00

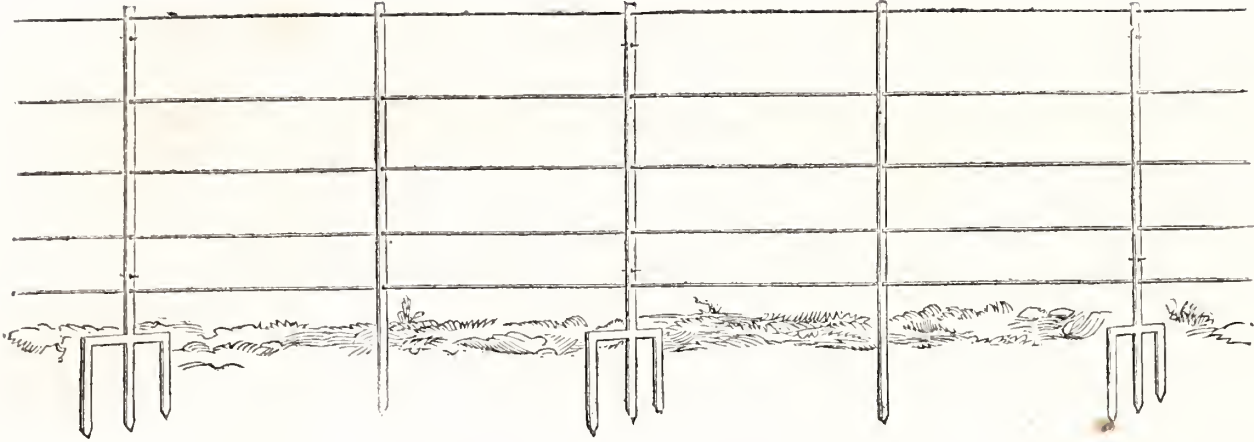
No. 27.



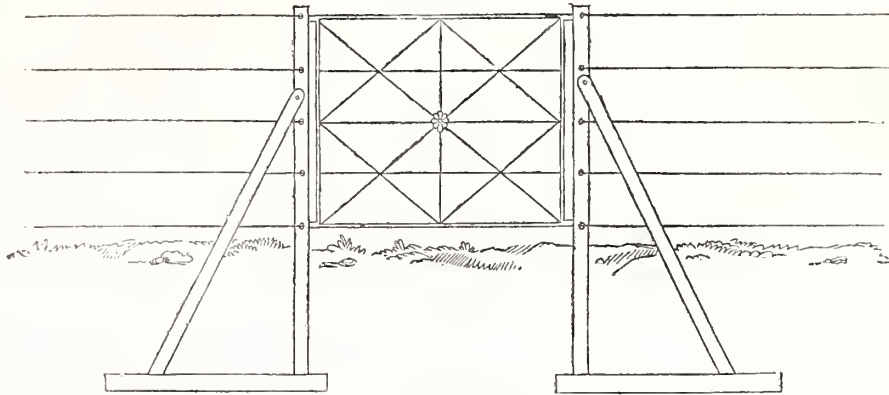
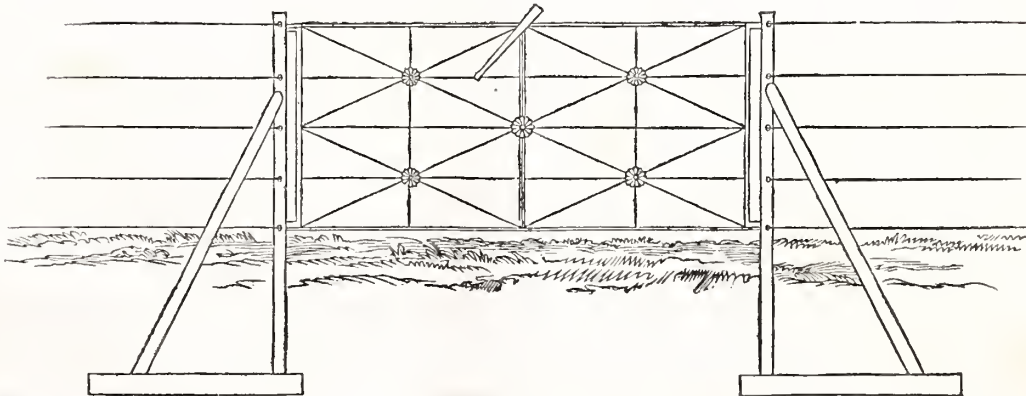
The above is a pattern made of flat rails, which might be preferred by some. It can be furnished at nearly as low prices as the round rail.

IRON STRAINING PILLARS.

Iron Straining Posts, needed only for the commencement, corners and ending of the fence . . \$5 each.

No. 29.

The above is the style of English Hurdle Fence, which is firm and substantial, and at the same time easily taken up and transported to other enclosures. Price 40 and 50 cents per lineal foot.

No. 24.**No. 25.**

Above are represented the single and double Gates accompanying the above styles of Fence. Their hangings and fastenings are perfect in every respect. Prices, for single, \$6 ; for double, \$15.

IMPROVED WIRE NETTING FENCE.

ADAPTED FOR THE USE OF RAILROADS, FARMS, PRAIRIE LANDS AND LAWNS; ENCLOSURES FOR HENERIES; TRELLIS FOR GRAPE-VINES, ARBORS AND ARCHES; PROTECTION FOR WINDOWS OF CHURCHES, MILLS AND WORKSHOPS.

WIRE FENCES AND THEIR UTILITY.

Some years have elapsed since fences began to be constructed of iron. Continual use in England, France and the United States has established the fact, that they are altogether superior to any other style: and hence their employment has become a matter of general interest. Their durability has been placed beyond question by frequent and repeated experiments, while their cheapness and efficiency are no longer matters of mere experiment, but acknowledged facts.

Wire fences, necessarily firm and durable, as a consequence of the material of which they are constructed, are now manufactured at a trifling cost. Theoretical agriculturists have devoted much time to disputes in relation to fences. They have tried stone walls, hedges, the rickety post-and-rail fence, "worm-fences," and many kinds which now have scarcely a memory left, and none of these have been entirely successful. The grand requisites of an effective and economical fence are strength, lightness, durability, portability and cheapness. In very few of these particulars have any of the old varieties been found perfect. Deficient in some one important point, they have soon become deficient in all, and hence, as a natural consequence, few or none of them have become generally popular. In view of the repeated failures of inventive genius to produce a suitable fence for farm purposes, certain parties essayed to put forward a style of enclosure which, formed wholly of iron wire, would be made with readiness to meet at least the following requirements: 1, Lightness; 2, Strength; 3, Portability; 4, Durability. It is believed that these desiderata have been attained at the present time. Wire fences are found to meet demands that were previously unsupplied, and in England, as in this country, their use thus far has been attended with success.

Wire fences possess advantages over others, in that, they disfigure no landscape, obstruct no lawn; and that they enhance, rather than destroy, the symmetry and beauty of ornamental grounds. Needing few or no repairs, pulling heavily upon no man's purse, and susceptible of receiving the most tasteful forms, the wire fence may justly be voted a good thing.

The entire fence is so made that it may be rolled up like a carpet, when 1600 square feet of surface may be contained in 30 cubic feet of space.

This fencing is impassable to all kinds of stock, it does not "hold" the wind, and can never be blown down in a gale or washed away by a flood, as it offers so slight a resistance to the wind and the current. Fire cannot burn it down, when the posts are of iron. In fact, it is a wind, water, and fire-proof fence.

PRICES FOR WIRE NETTINGS.

No. 1—3 ft. 9 in. high, 3 in. mesh, 4 lateral wires	No. 10, body wire	No. 14, weight, 10 lbs. per rod, 16½ ft.	\$2 25
No. 2—3 ft. " " 3 in. " 2	" " " " " 9	" " " " " "	2 00
No. 3—2 ft. " " 3 in. " 3	" " " " " " 7½	" " " " " "	1 75
No. 4—2 ft. " " 3 in. " 2	" " " " " " 6¾	" " " " " "	1 50
No. 5—1 ft. 4 " 3 in. " 2	" " 12, " " 4¼	" " " " " "	1 00
No. 6—3 ft. 9 " 6 in. " 4	" " " " 12, " 10 lbs.	" " " " " "	1 50
No. 7—3 ft. " " 6 in. " 2	" " " " " " 8 lbs.	" " " " " "	1 25
No. 8—2 ft. " 1¼ in. " 2	" " 14, " " 18,	" " " " " "	2 50

Nos. 1, 2, 3, and 4 for Fences, are admirably adapted, proof against sheep, hogs and dogs, and more especially serviceable against chickens; the long sought for *desideratum* in protecting *Poultry Yards*, gardens, and the like.

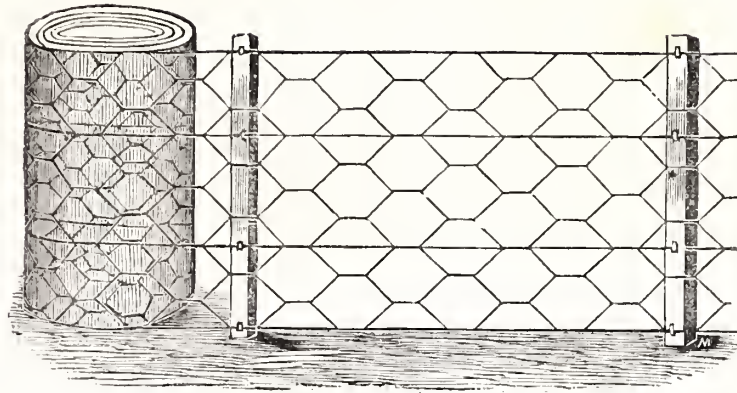
No. 5—Is used for all kinds of Trellis-work, as well as for low fences, and surmounting fences.

Nos. 6 and 7.—The most practical barriers against cattle, horses, sheep, &c. Emphatically, a RAILROAD and PRAIRIE FENCE.

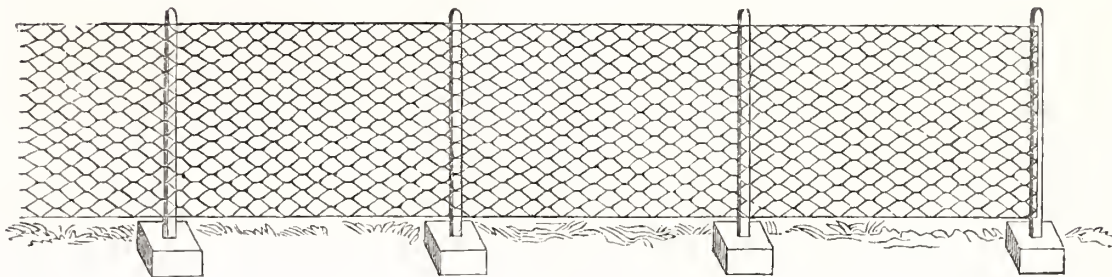
No. 8—Nettings for window protection, used in church windows, and mills, factories, and workshop windows.

The following illustrations explain the manner of putting up the NETTINGS.

No. 401.



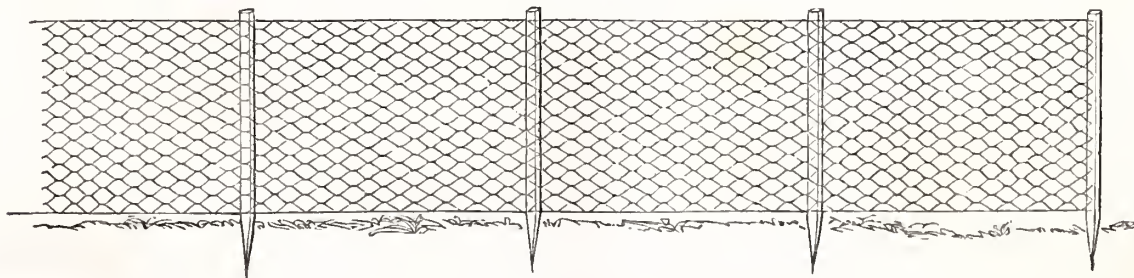
No. 402.



WIRE NETTING WITH IRON POSTS AND STONE BLOCKS.

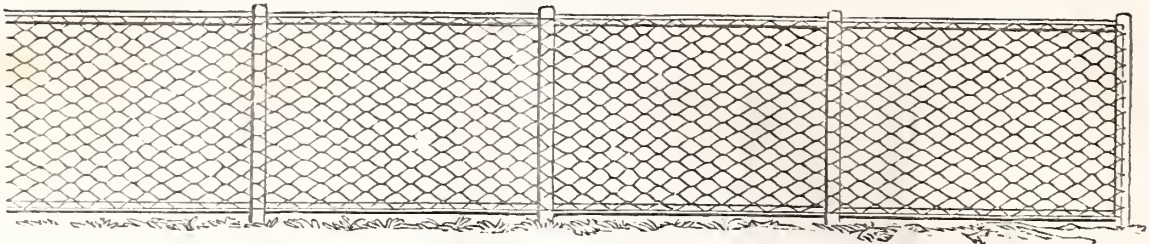
When iron uprights are used to support the nettings, they are fastened into stone blocks with brimstone; when wooden blocks are used, the posts are driven into cuts or holes prepared in top of the blocks.

No. 403.

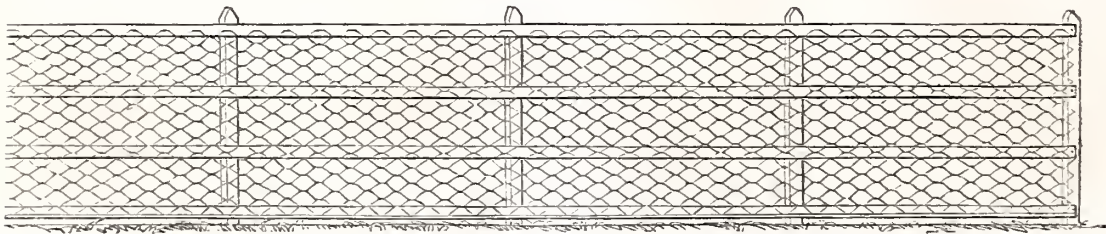


WIRE NETTING WITH WOODEN POSTS.

Small staples are used in fastening the nettings to wooden posts.

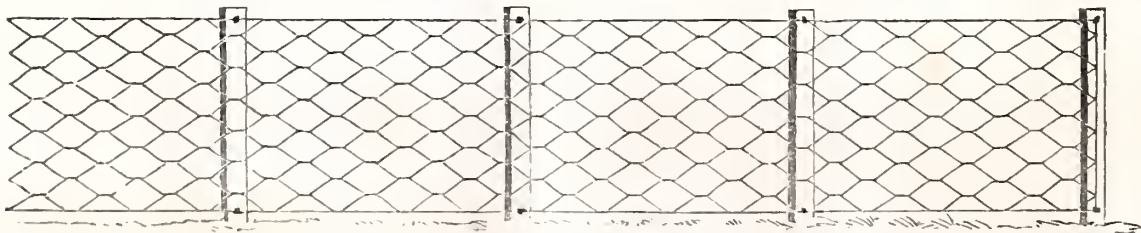
No. 404.

WIRE NETTING WITH WOODEN POSTS, AND THE RAILS BOTTOM AND TOP OF WOOD.

No. 405.

WIRE NETTING WITH WOODEN POSTS; BOTTOM, TOP, AND INTERMEDIATE RAILS, OF WOOD.

Small staples are used in attaching the netting to the rails and posts.

No. 406.

WIRE NETTING OF LARGER MESHES WITH WOODEN POSTS.

Flat iron posts at	50 cts. each.
Angle iron posts at	62½ " "
Staples at	\$1 25 per gross.

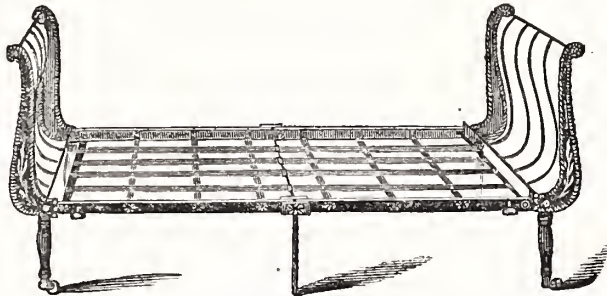
IRON BEDSTEADS.

Mankind not only love good living and the refinements of civilized society, but also the luxuries of repose. Nothing makes one in a better humor with himself and "the rest of mankind" than a comfortable bed and refreshing sleep—to obtain which, the bedstead is an indispensable requisite. The soldier may live through his campaigns, sleeping on the ground, or on a "soft plank" that offers its scanty accommodations for his acceptance; the prisoner in his cell feels thankful for his pallet of straw, and the rover is contented with his blanket; yet it is not probable that either would select these modes in preference to the comforts of more refined life. From the earliest periods men have bestowed much attention on the appliances of the couch and the bed-chamber. We read of bedsteads among the rich Greeks and Romans "made of ivory, ebony, and rich woods, with inlaid work, and figures in relief." Among the Greeks, there were artisans who excelled in making brazen feet for bedsteads, chairs, &c. In ancient Egypt bedsteads were enclosed in mosquito-nets, supported by wooden posts. The Romans made their bedsteads of silver, of gold with onyx feet, and of iron. One of the latter was found in Pompeii.

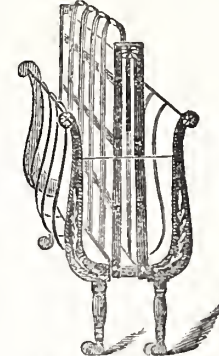
The base and precious metals have thus entered largely into the household fabrics of ancient and modern nations. In the present age, iron has been applied to manifold uses where it was never before thought of, and not the least among these is the IRON BEDSTEAD. We have before in these pages spoken of applications of iron to other important purposes, but their importance does not throw into the shade our present subject. The ease and pliancy of these bedsteads, their great portability, cleanliness, and undoubted solidity, commend them to universal favor, creating for them an immense demand. Many persons who have heretofore preferred the old-fashioned, clumsy, and inconvenient styles, from a mistaken notion that an Iron Bedstead must necessarily be awkward and unsightly, have found their error refuted by an examination of the handsome styles of workmanship illustrated by the plates below. The subject is commended to the attention of housekeepers and others who would make a desirable addition to their summer comforts.

These Bedsteads are manufactured on an entirely new plan, being constructed with joints so as to fold up into a very small compass. They possess one recommendation which should outweigh all others,—they are entirely free from the insect annoyances peculiar to the wooden variety, insuring pleasant slumbers in the sultry nights of summer. Their highly ornamental appearance and the small space they occupy render them superior to everything heretofore manufactured.

No. 35.—Bedstead Open.

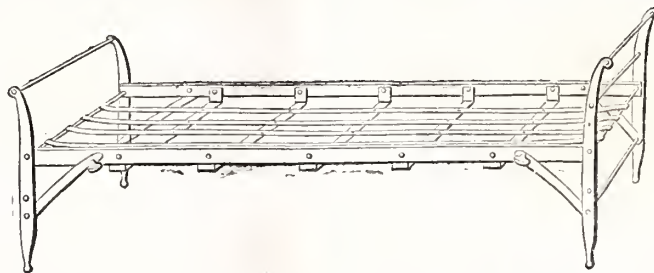


No. 35.—Bedstead Shut.



The above cuts represent the Bedstead open and shut. Prices—For $\frac{2}{4}$ size, \$7; $\frac{3}{4}$, \$8; $\frac{4}{4}$, \$9. These patterns are bronzed or tipped with gold.

No. 36.—HOSPITAL AND SERVANTS' BEDSTEAD.



The above cut represents a cheaper and plainer variety, excellently adapted for the use of Hospitals, Servants, &c. Prices—For $\frac{2}{4}$ size, \$5; $\frac{3}{4}$, \$6; $\frac{4}{4}$, \$7.

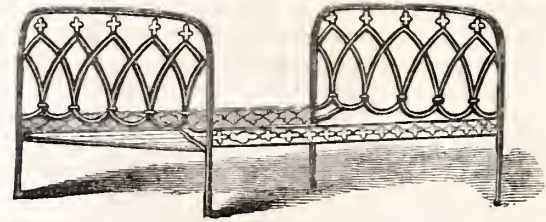
No. 37.

CAST-IRON BEDSTEADS.

No. 38.



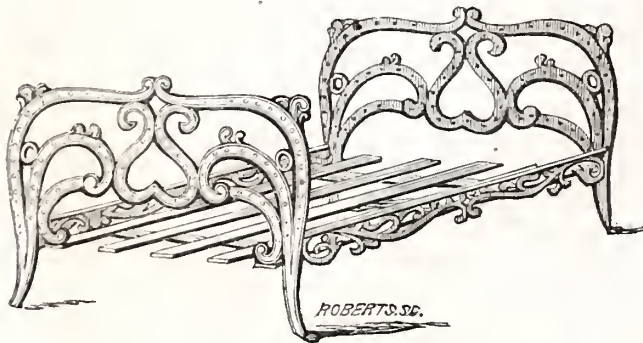
Prices—\$25 to \$45.



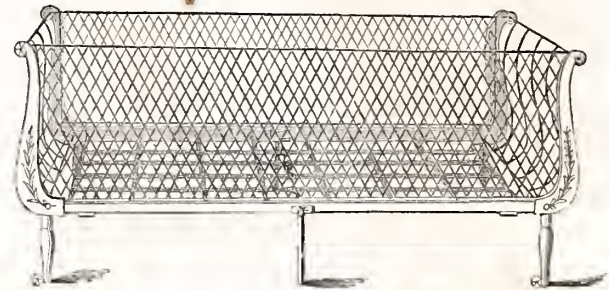
Prices—\$9 to \$25.

Above are specimens of Cast-Iron Bedsteads, which, although not so light and portable as the wrought varieties, are far preferable to wood, in consequence of their durability, cleanliness and beauty. They can be purchased of any pattern, French or American, and of any color—oak, mahogany, rosewood, plain or ornamented, bronzed, China White, or gilt; of any sizes, four-fourths, three-fourths, or single; for private family, hotel, hospital, or servants' uses.

No. 39.

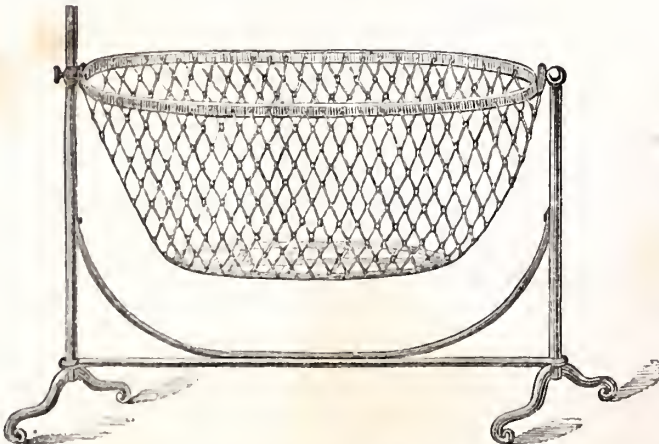
Cast-Iron Bedstead—Price for $\frac{3}{4}$ size, \$18.

No. 40.



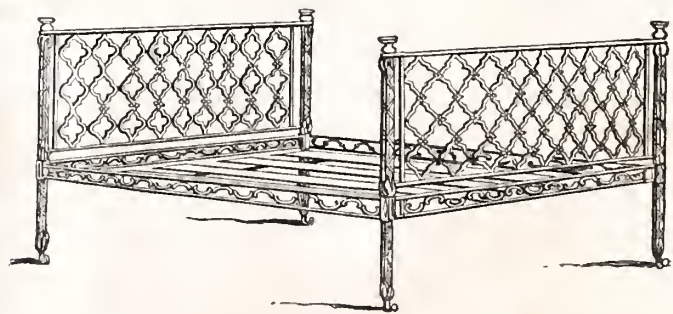
Folding Crib—Price \$10.

No. 41.



Swinging Crib—Price \$6 to \$15.

No. 42.



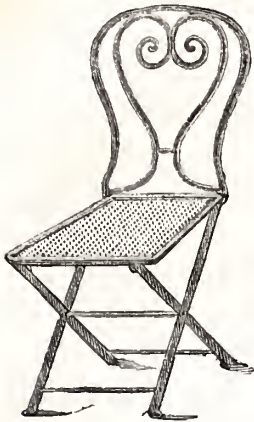
The Union Bedstead, admirably adapted to Dwellings and Hotels.
Price for 2-4, \$12; 3-4, \$15; 4-4, \$20.

Iron Bedsteads are designated in size by 2-4, which embraces widths from 2 ft. 6 in. to 3 ft.
3-4, " " " from 3 ft. 6 in. to 4 ft.
4-4, " " " from 4 ft. 6 in. to 5 ft.

FRENCH WIRE FURNITURE.

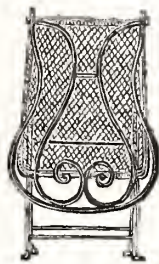
A new article lately introduced into this country from France. It is admirably adapted for Lawns, Summer Houses, Cottages, Piazzas, &c., &c. This style of Furniture is exceedingly light and unique in appearance. Among the articles manufactured will be found Folding, Hall and Office Chairs, Rocking and Arm Chairs, Tables, Settees, Fire Fenders, &c., &c. A few of the designs are here represented. *Particular attention is called to this branch from the trade.*

No. 200.



Folding or Travelling Chair. Price \$4 50.

No. 200.

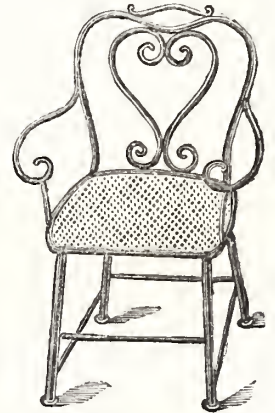


No. 201.



Rocking Chair—Price \$10.

No. 202.



Arm Chair—\$8.

No. 203.



Folding Chair, wire back—Price \$5.

No. 204.



Cottage Chair—Price \$5.

No. 205.

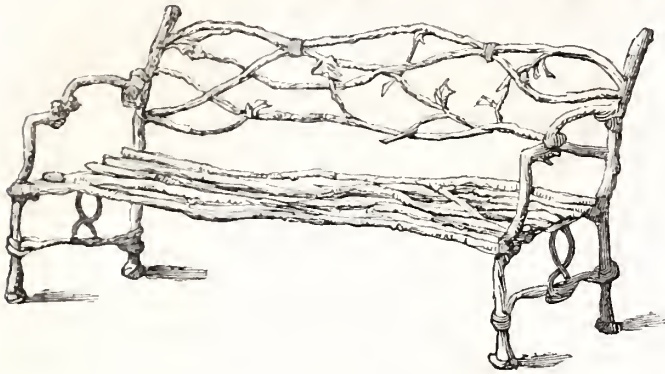


Stool—Price \$3 50.

CAST-IRON FURNITURE,

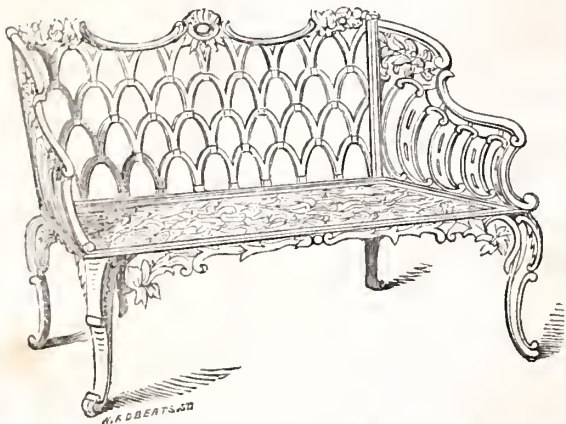
FOR GARDENS, CEMETERY ENCLOSURES, LAWNS, PIAZZAS, HALL CHAIRS, ETC., ETC.

No. 300.



Rustic Settee—Price \$8 and \$9.

No. 302.



Gothic Settee—Price \$17 and \$20.

No. 305.



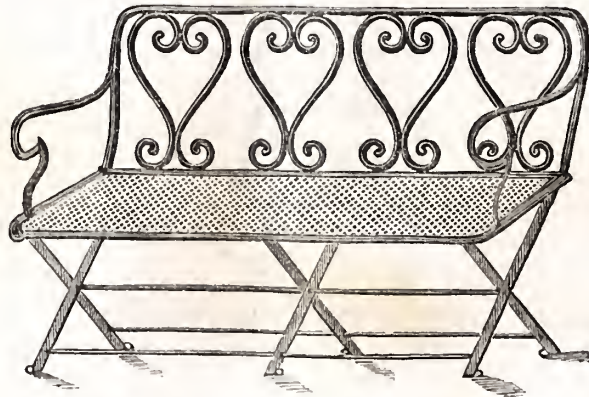
Grape Chair—\$5.

No. 303.



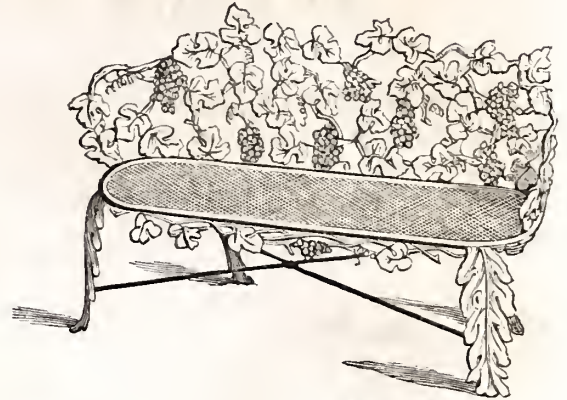
Hall Chair—Price \$4 50.

No. 306.



Folding or Stationary Settee, for Piazzas, Lawns, &c.—\$10 to \$15.

No. 301.



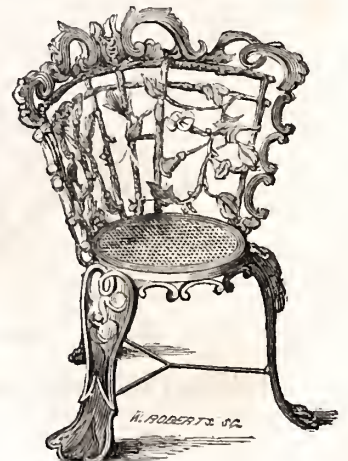
Grape Settee—Price \$8 and \$10.

No. 304.



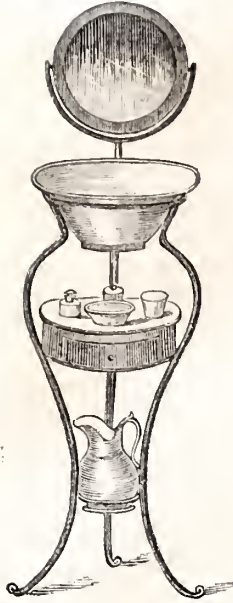
Hall Chair—Price \$4 50.

No. 306.



Morning Glory Chairs—\$6.

No. 307.



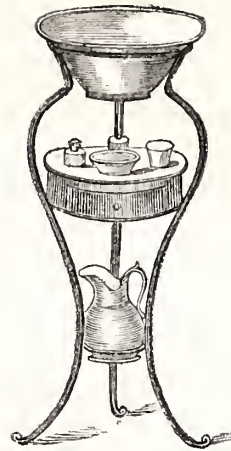
Iron Washstand,
with Glass, including Crockery.
Price \$7.

No. 310.



Vase.
From \$5 to \$20.

No. 308.



Iron Washstand,
without Glass, including Crockery.
Price \$6 50.

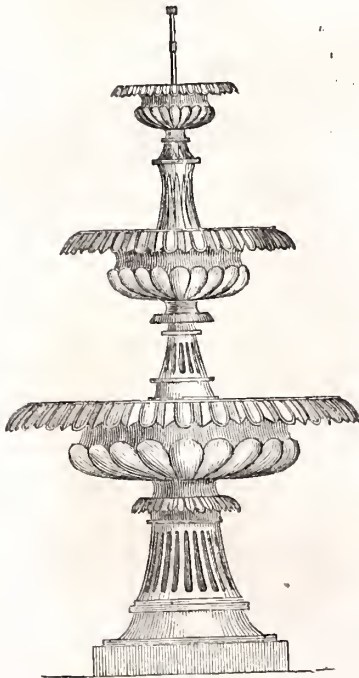
No. 311.

New design



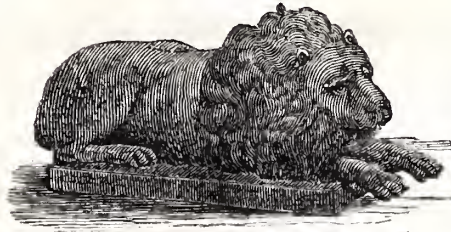
Horse Posts.
Price \$6.

No. 309.



Fountain—Price \$40.

No. 312.



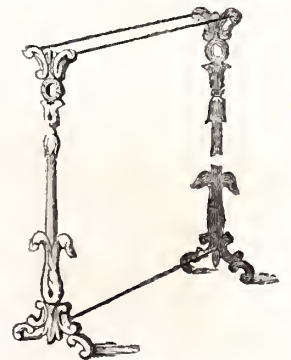
Lions—\$75 per pair.

No. 313.



Hounds—\$20 to \$40 per pair.

No. 314.



Towel Stand—\$1 50 each.

CAST-IRON FRONTS AND IRON-WORK,

FOR BUILDINGS, CAPS, LINTELS, CORNICE, TRUSS GIRDERS, COLUMNS AND BRACKETS.

WROUGHT-IRON DOORS, SHUTTERS, AND ALL WROUGHT AND CAST IRON WORK FOR BUILDING PURPOSES.

BUILDERS, and those designing to build, are respectfully invited to examine the designs of Iron Work for Buildings. The more ready adaptation of Iron Work to any style of Architecture, and its superiority in point of strength and cheapness, have in a great measure superseded the use of Brown Stone.

The increasing demand, more particularly for WINDOW LINTELS AND SILLS, has induced the manufacturers to get up an additional number of NEW PATTERNS, now numbering SIXTEEN in all, of different styles, the cost of which being about

ONE-THIRD THE PRICE OF BROWN STONE,

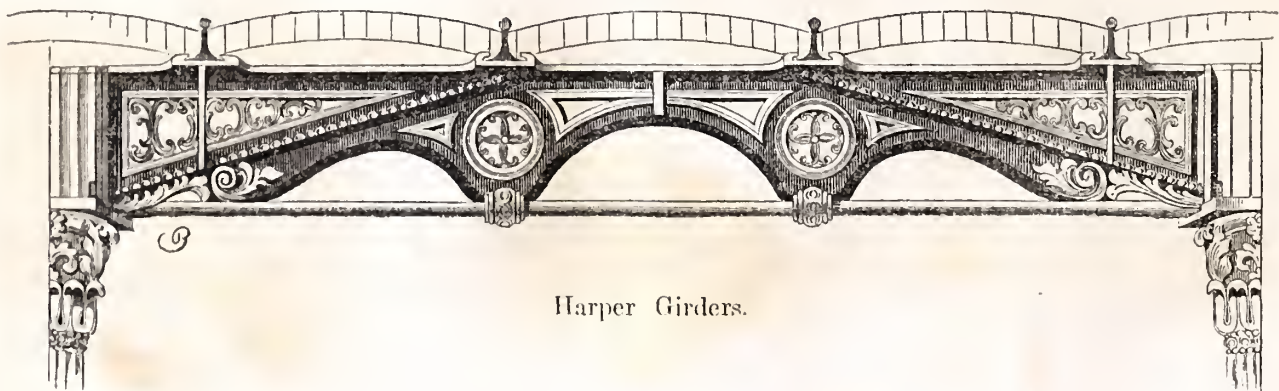
cut in the same manner.

No. 500.

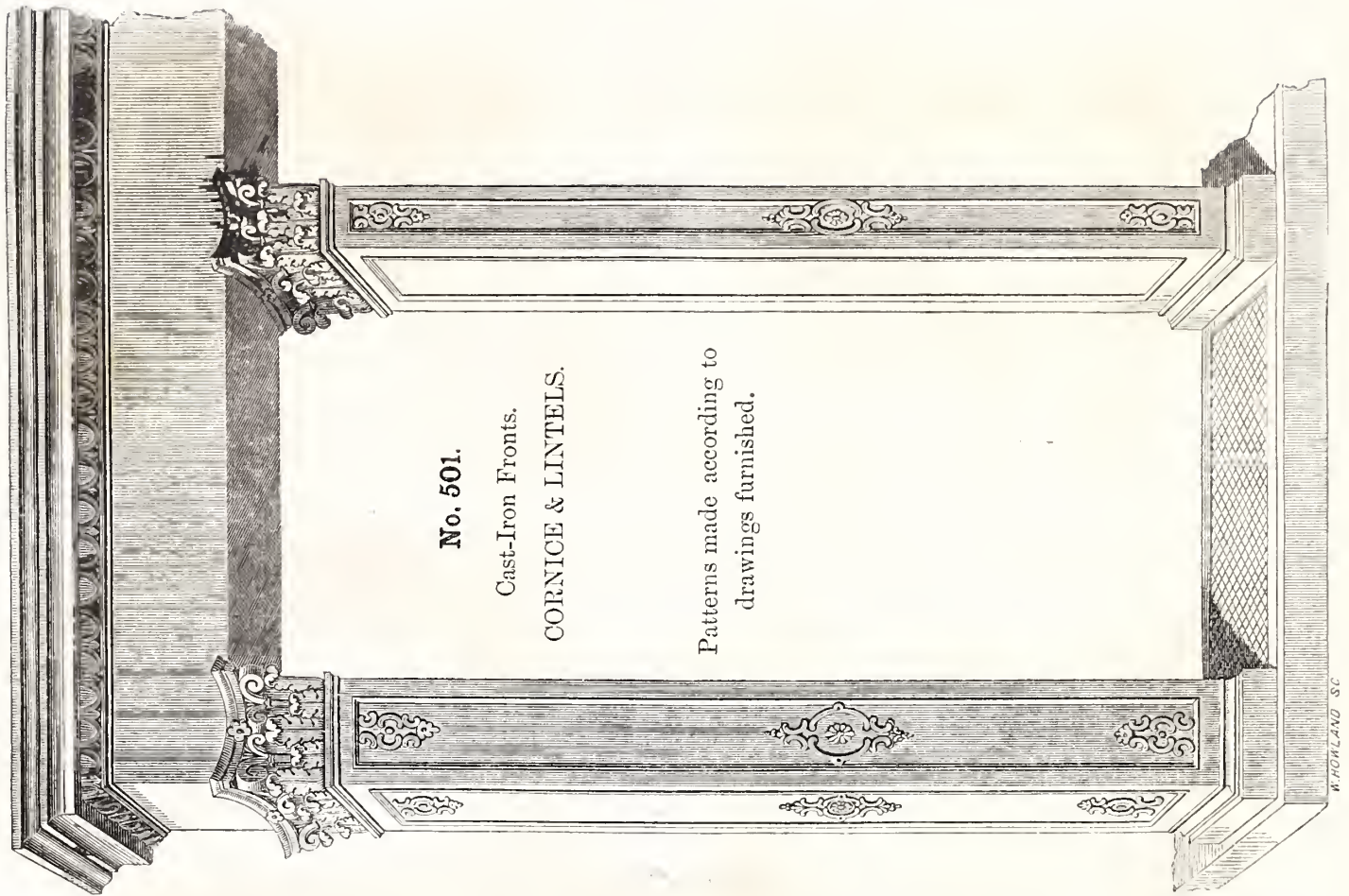


Truss Girder, with Rod.

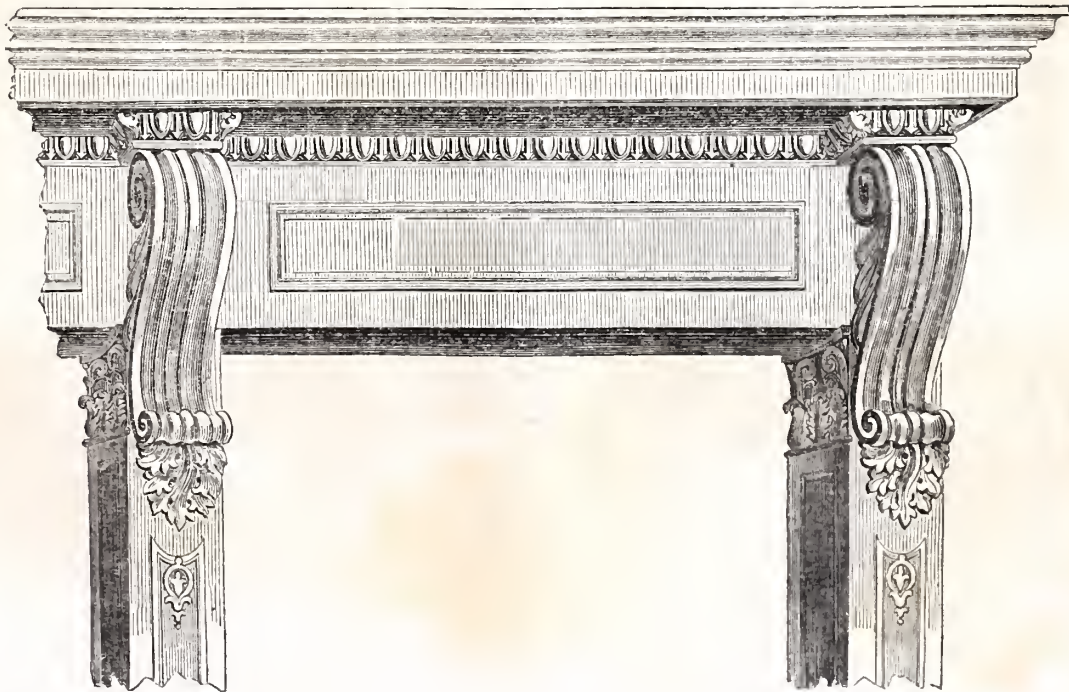
No. 539.



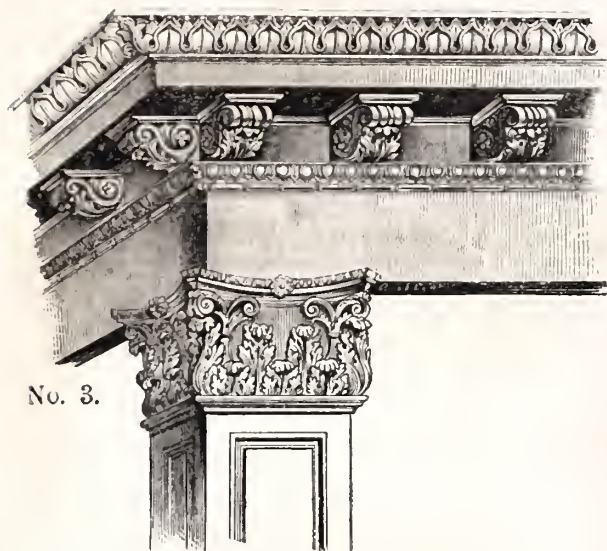
Harper Girders.



No. 532.



No. 534.



No. 3.

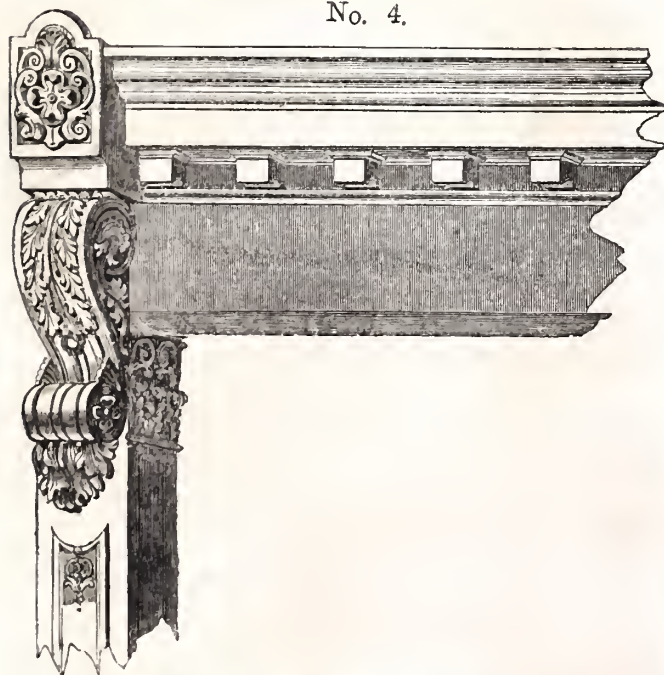
No. 533.



No. 2.

No. 535.

No. 4.

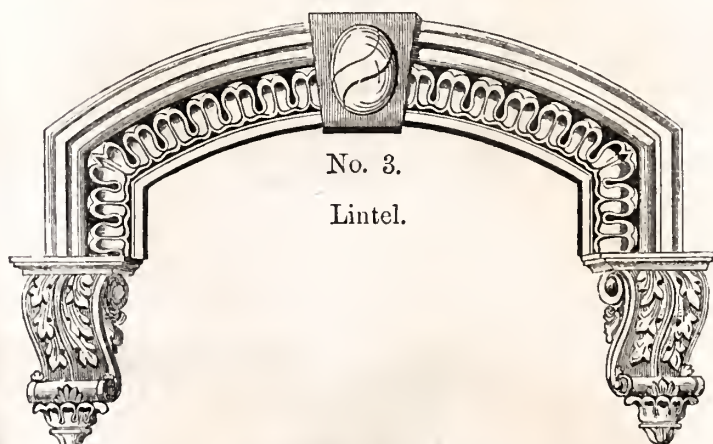


No. 507.



No. 1.—Lintel for Window, with Trusses.

No. 522.



No. 3.

Lintel.

No. 521.



No. 2.—Straight Window Lintel, with Trusses.

No. 505.



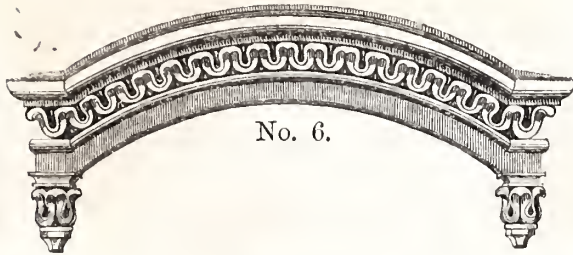
Lintel No. 5.

No. 506.



No. 4.

No. 523.



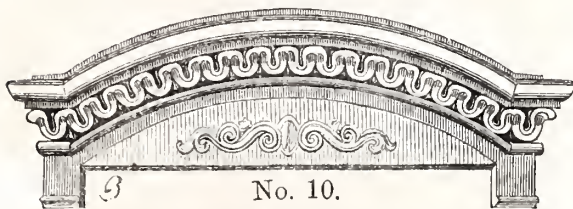
No. 6.

No. 510.



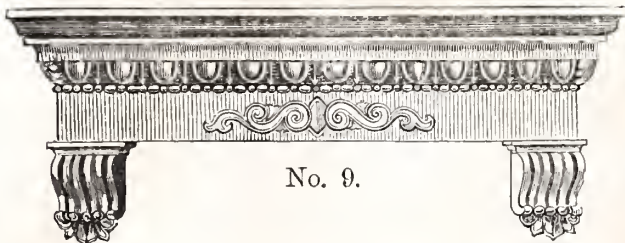
Sill, with Corbels.

No. 525.



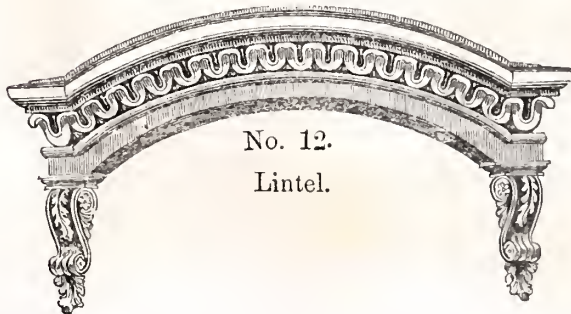
No. 10.

No. 524.



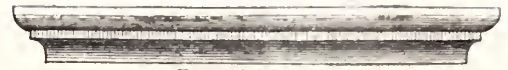
No. 9.

No. 527.



No. 12.
Lintel.

No. 508.



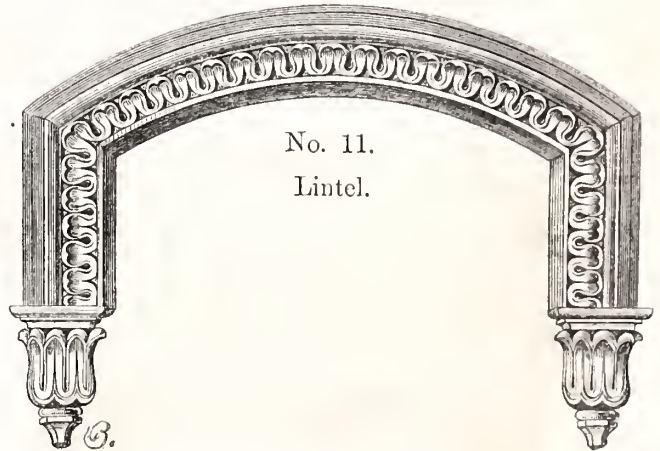
Lintel No. 7.

No. 509.



Lintel No. 8.

No. 526.



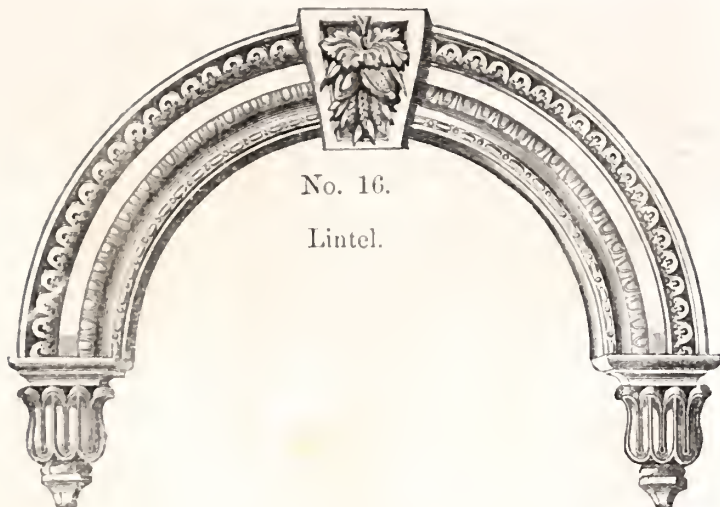
No. 11.
Lintel.

No. 529.



No. 14.
Lintel.

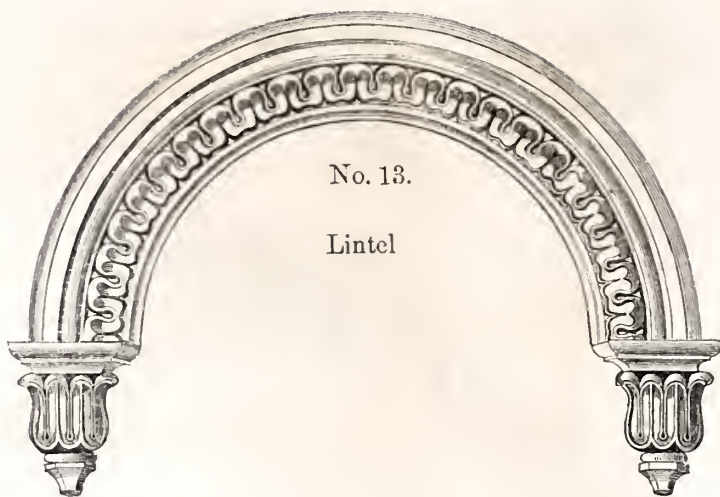
No. 531.



No. 16.

Lintel.

No. 528.



No. 13.

Lintel

No. 530.



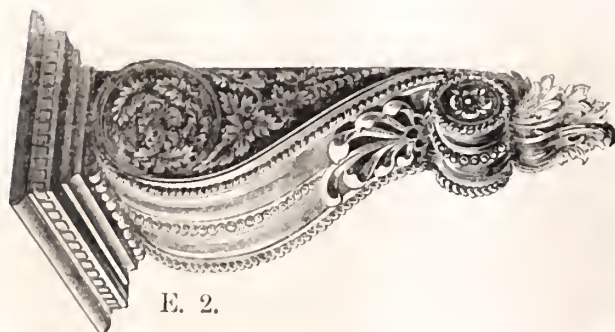
No. 15.

No. 540.



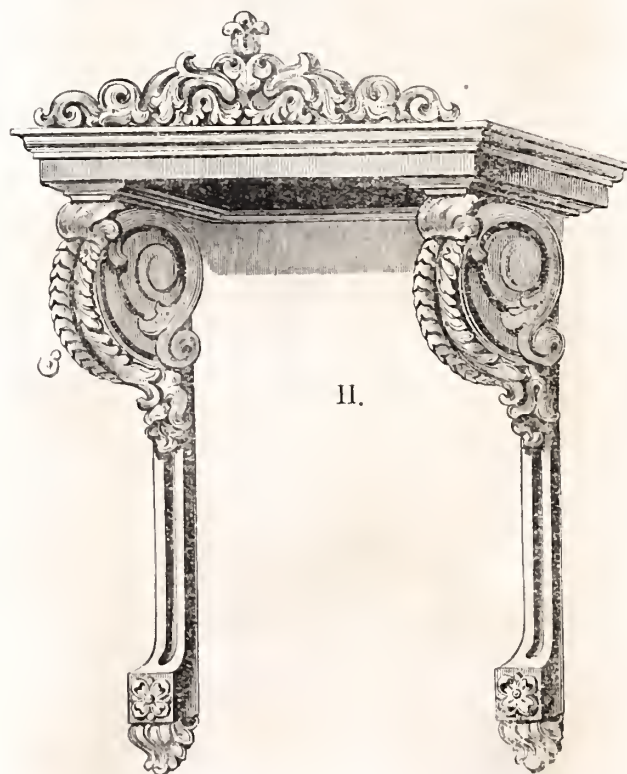
E. 1.

No. 541.



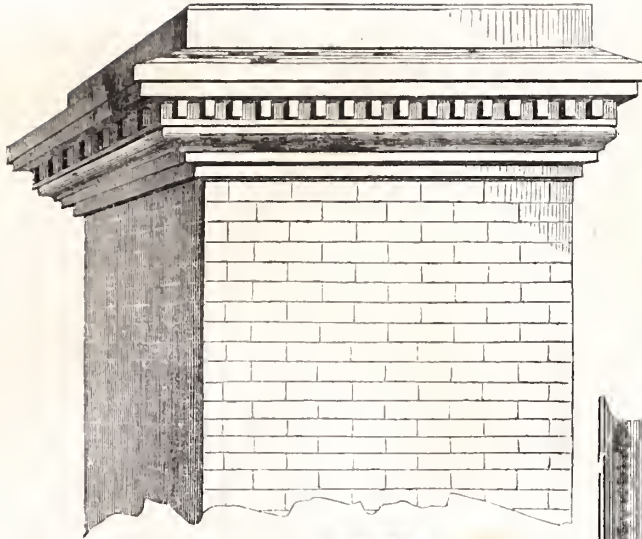
E. 2.

No. 537.



II.

No. 536. Chimney Top.



No. 542.



Goth. Col.

No. 502.



Jenny Lind Column, Metropolitan Hotel, N. Y.

No. 504.



Round Fluted Column, Cap and Base.

No. 511.



Straight Girder.

No. 503.



Fancy Column.

No. 512.



Dolphin Leader.

No. 513.



Plain Fluted Gutter Leader.

No. 514.

CORREGIO CAPITALS.—Made for the Saint Charles Hotel, New Orleans. 46 inches diameter.—Round.

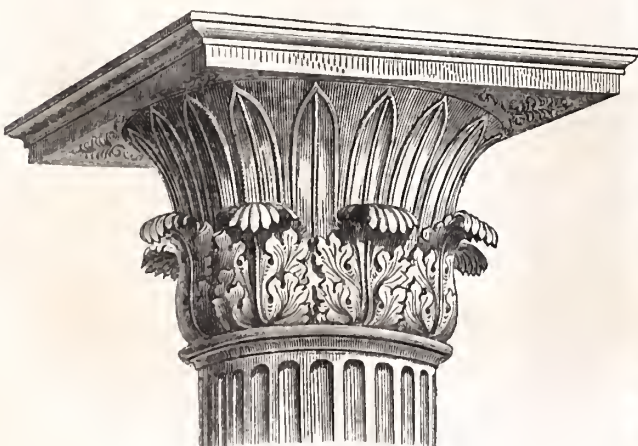


HOWLAND

No. 515.

HOWLAND

CORREGIO CAPITALS, square, made for St. Charles Hotel, N. O.

No. 517.—TOWER OF THE WIND.

HOWLAND

6 to 27 inches in diameter.

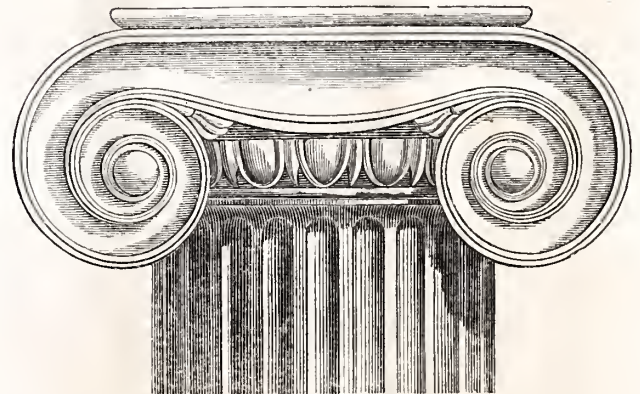
No. 516.

HOWLAND SC.

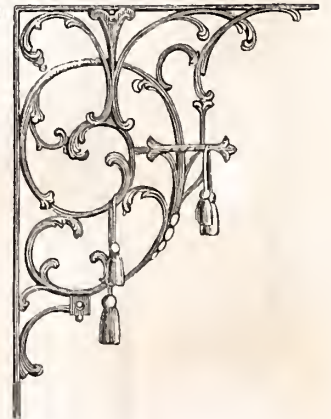
CORINTHIAN CAPITALS, from 8 to 18 in. diameter.

No. 518.

IONIC CAPITALS.



HOWLAND

No. 519.**No. 520.**

BRACKETS OF ALL DESCRIPTIONS.

PRICES OF CAPITALS.

CORINTHIAN.			TOWER OF WIND.			IONIC.		
No. 516.—8 inch. at neck,	\$8 00		No. 517.—6 inch. at neck,	\$3 00		No. 518.—8 inch. at neck,	\$4 50	
" 10 " "	12 00		" 8 " "	4 00		" 10 " "	5 50	
" 12 " "	16 00		" 10 " "	5 50		" 12 " "	8 50	
" 14 " "	23 00		" 12 " "	7 50		" 14 " "	10 50	
" 16 " "	30 00		" 14 " "	10 50		" 24 " "	25 00	
" 18 " "	45 00		" 27 " "	35 00		" 27 " "	35 00	
" 20 " "	65 00					" 32 " "	50 00	
" 24 " "	100 00					" 42 " "	125 00	

PRICES OF LINTELS AND SILLS.

No. 507.—3 ft. 2 in. opening,	\$12 50	No. 523.—3 ft. 6 in. opening,	\$8 00
" 3 " 6 " "	13 00	" 3 " 7½ " "	8 25
" 3 " 8 " "	13 25	No. 509.—3 ft. 7 in. opening,	\$5 12
" 4 " " "	13 75	" 3 " 8 " "	5 25
" 4 " 3 " "	14 00	" 3 " 9 " "	5 50
" 4 " 4 " "	14 25	No. 524.—3 ft. 6 in. opening,	\$8 00
" 4 " 10 " "	15 00	" 3 " 7½ " "	8 25
" 5 " " "	15 25	" 3 " 9 " "	8 50
" 5 " 2 " "		No. 525.—2 ft. 10 in. opening,	\$4 50
No. 521.—3 ft. 6 in. opening,	\$12 00	" 3 " " "	4 75
" 3 " 8 " "	13 25	No. 526.—3 ft. 2 in. opening,	\$12 00
" 4 " " "	13 75	" 3 " 6 " "	12 50
" 4 " 2 " "	14 00	" 3 " 8 " "	12 75
" 4 " 10 " "	15 00	" 4 " " "	13 00
" 6 " " "	17 00	" 4 " 3 " "	14 00
No. 522.—3 ft. 8 in. opening,	\$14 00	" 4 " 4 " "	14 25
" 5 " " "	16 00	" 4 " 10 " "	15 00
" 5 " 6 " "	16 50	" 5 " " "	15 25
" 6 " " "	17 00	No. 527.—3 ft. 6 in. opening,	\$11 00
No. 506.—3 ft. 2 in. opening,	\$4 50	" 4 " " "	11 75
" 4 " " "	5 50	No. 528.—3 ft. 6 in. opening,	\$12 00
" 4 " 3 " "	6 00	No. 529.—3 ft. 6 in. opening,	\$13 50
No. 505.—3 ft. in. opening,	\$4 25	" 3 " 9 " "	13 75
" 3 " 2 " "	4 50	" 4 " " "	14 00
" 3 " 4 " "	4 75	No. 530.—4 ft. opening,	\$8 50
" 3 " 6 " "	5 00	No. 531.—3 ft. 6 in. opening,	\$14 00
" 3 " 7½ " "	5 12	" 3 " 9 " "	14 25
" 3 " 9 " "	5 25	" 4 " " "	14 50
" 4 " " "	5 50		
" 4 " 4 " "	6 00		

Chimney Tops, \$1 62 per running foot.

Sills, 4 ft. opening and under, \$4 each.

HAIR MATTRESSES, FEATHER, CORN HUSK AND STRAW BEDS.

The constant and increasing demand for Ornamental and Plain *Iron Bedsteads* and their *Furniture*, has induced an extension of this branch, which has already grown into a large and flourishing trade. The superior make of these *Hair Mattresses* and *Beds* are their principal recommendation. Orders filled for Steamships, Vessels, Hotels, Private Residences, Asylums, Hospitals, &c., &c., with promptness, and at the lowest market prices.

Warren's Centripetal Spring Chairs.

The most agreeable, easy and luxurious Chair extant, suitable for the Parlor, Chamber, and Office.

Prices varying from \$7 to \$50 each.

CAST-IRON ORNAMENTAL COAT AND HAT TREES.

A large and extensive variety of Patterns.

No. 1.



No. 2.



No. 3.



No. 4.



**The following Articles, some of which are previously enumerated,
manufactured and furnished at the lowest rates.**

- ORNAMENTAL AND PLAIN IRON RAILINGS—Made of every design, manufactured either of WROUGHT IRON, WIRE, or CAST IRON, for PUBLIC and PRIVATE GROUNDS, DWELLINGS, PUBLIC BUILDINGS, AREAS, and STOOFS, &c., &c.
- IRON WINDOW GUARDS—For PUBLIC BUILDINGS, HOSPITALS, LUNATIC ASYLUMS, PRIVATE HOUSES, BASEMENT WINDOWS, &c., &c.
- IRON GRATINGS AND RAILINGS—For BANKS, STORES, and OFFICES.
- IRON GATES—Of every style and design, from the most ornamental, for PUBLIC PARKS, CHURCHES, &c., to the plainest pattern of FIELD or FARM GATES.
- WIRE FENCES—Warranted to resist Cattle, Sheep and Hogs, for RAILROADS, FARMS, LAWNS, &c.
- WIRE FENCE—Made on the plan of Wickersham's patent, cannot burn or float. Countries subjected to fire and inundations, and a scarcity of timber, this fence is invaluable.
- FLAT RAIL COTTAGE FENCE.—A very graceful and substantial Fence; an article long been sought for, combining neatness with economy.
- IRON BEDSTEADS—For DWELLINGS, HOSPITALS, ASYLUMS, PRISONS, &c. A large assortment. Competition is defied in the manufacture of Bedsteads. This establishment manufactures more Bedsteads of Iron than all the other manufacturers in the city combined.
- HAIR MATTRESSES—Of a superior make, for PRIVATE FAMILIES, HOTELS, VESSELS, ASYLUMS, &c., &c. Also, CORN HUSK, FEATHER and STRAW BEDS. The increasing demand for Bedsteads has induced the manufacturers to enter more largely into the manufacture of these indispensable comforts.
- FRENCH WIRE FURNITURE—Only needs to be seen to bring it into general use. WASHSTANDS, TABLES, CHAIRS, SETTEES, &c.
- CAST-IRON FURNITURE—CHAIRS, SETTEES, TABLES, BLOWER STANDS, SHOVEL and TONGS STANDS, SPITTOONS, UMBRELLA STANDS, HAT TREES, DOOR SCRAPERS, TABLES, TABLE PEDESTALS, &c., &c.
- WIRE NURSERY FENDERS—Of all sizes.
- WIRE NETTINGS—For Fences; also, Sheep and Poultry proof Nettings, of various widths and lengths.
- GARDEN WIRE WORK—ARBORS, ARCHES, TRELLIS for GRAPE VINES, RUNNERS for TRAINING PLANTS and FLOWERS.
- CAGES—Of the newest patterns.
- COAL AND IRON ORE SCREENS—Used for screening COAL, SAND, LIME, IRON, COPPER and ZINC ORES.
- CAST-IRON FRONTS—For STORES, PUBLIC and PRIVATE BUILDINGS, CORNICE, LINTELS, CAPS, COLUMNS, SPOUTS, SILLS, GIRDERS, &c., &c.
- HORSE POSTS—Of new and appropriate designs.
- WROUGHT-IRON DOORS, SHUTTERS, GRATINGS AND RAILINGS—In fact, all Wrought and Cast-Iron Work in the before-mentioned branches.

**A few of the Places and Persons for whom the various Articles manufactured
have been furnished.**

THE MASSIVE RAILING, enclosing the outside of the far-famed CRYSTAL PALACE, at New York, including GATEWAYS, POSTS, FOUNDATION GRADINGS, &c.

THE INSIDE RAILINGS, made from a beautiful design of WIRE RAILING, enclosing the galleries of the CRYSTAL PALACE, together with the DOME, STAIRS, NEWELS, STANDARDS, STAIR, AND PLATFORM RAILINGS. Also, the BALCONY RAILINGS for the same building, manufactured and put up by the Proprietor.

FORSYTH PLACE.—A Public Park, containing upwards of 10 acres. Also, CHURCHES, PUBLIC BUILDINGS, PRIVATE RESIDENCES, and CEMETERY, in Savannah, Ga., furnished with Iron Railings.

AIKIN SQUARE, FLYNN'S CHURCH, CIRCULAR CHURCH, and many of the most prominent buildings in Charleston, S. C., furnished with *Iron Railings* outside, *Gallery Railings* inside, *Window Guards*, *Doors*, *Shutters*, &c.

AUGUSTA AND WANESBORO' R.R. CO., Ga.—*Iron Gateways*, measuring 44 feet, 22 feet and 11 feet, suitable for Railway purposes, furnished for the above Company.

THE HOUSE OF REFUGE, Philadelphia.—The *Gallery Railing* and *Iron Bedsteads*.

SCHOOL OF MODERN REFORM, near Boston.—All the *Window Gratings*.

PRESIDENT'S GROUNDS AT WASHINGTON.

ASTOR LIBRARY;—CONVENT OF SACRED HEARTS;—BOARD OF EDUCATION;—GEORGIA FEMALE COLLEGE;—BLOOMINGDALE ASYLUM;—COLLEGE OF ST. JAMES, &c., &c.

CORPORATION OF THE CITY OF NATCHEZ.

CITY INFIRMARY, Cincinnati.

FULTON BANK;—HANOVER BANK;—CITY BANK OF BROOKLYN;—BROOKLYN SAVINGS BANK;—CENTRAL BANK OF BROOKLYN;—BANK OF THE STATE OF NEW YORK;—BANK OF NORTH AMERICA;—STATE BANK AT TROY;—CENTRAL BANK AT TROY;—MANUFACTURERS' BANK AT TROY;—STATE BANK, NEWARK;—BANK AT PORTSMOUTH, VA.;—MERCHANT'S BANK, POUGHKEEPSIE;—CANAL BANK AT LOCKPORT;—COMMERCIAL BANK, GLENN FALLS;—ATLANTIC BANK, NEW YORK, &c., &c.

COLUMBIA INSURANCE CO.;—WASHINGTON INSURANCE CO.;—UNITED STATES INSURANCE CO., &c.

METROPOLITAN HOTEL;—ST. NICHOLAS;—PRESCOTT HOUSE;—CLINTON HOTEL;—LAFARGE HOTEL;—HAIGHT HOUSE, Elmira;—GREENWICH HOTEL;—ST. CHARLES HOTEL, N. O., &c., &c.

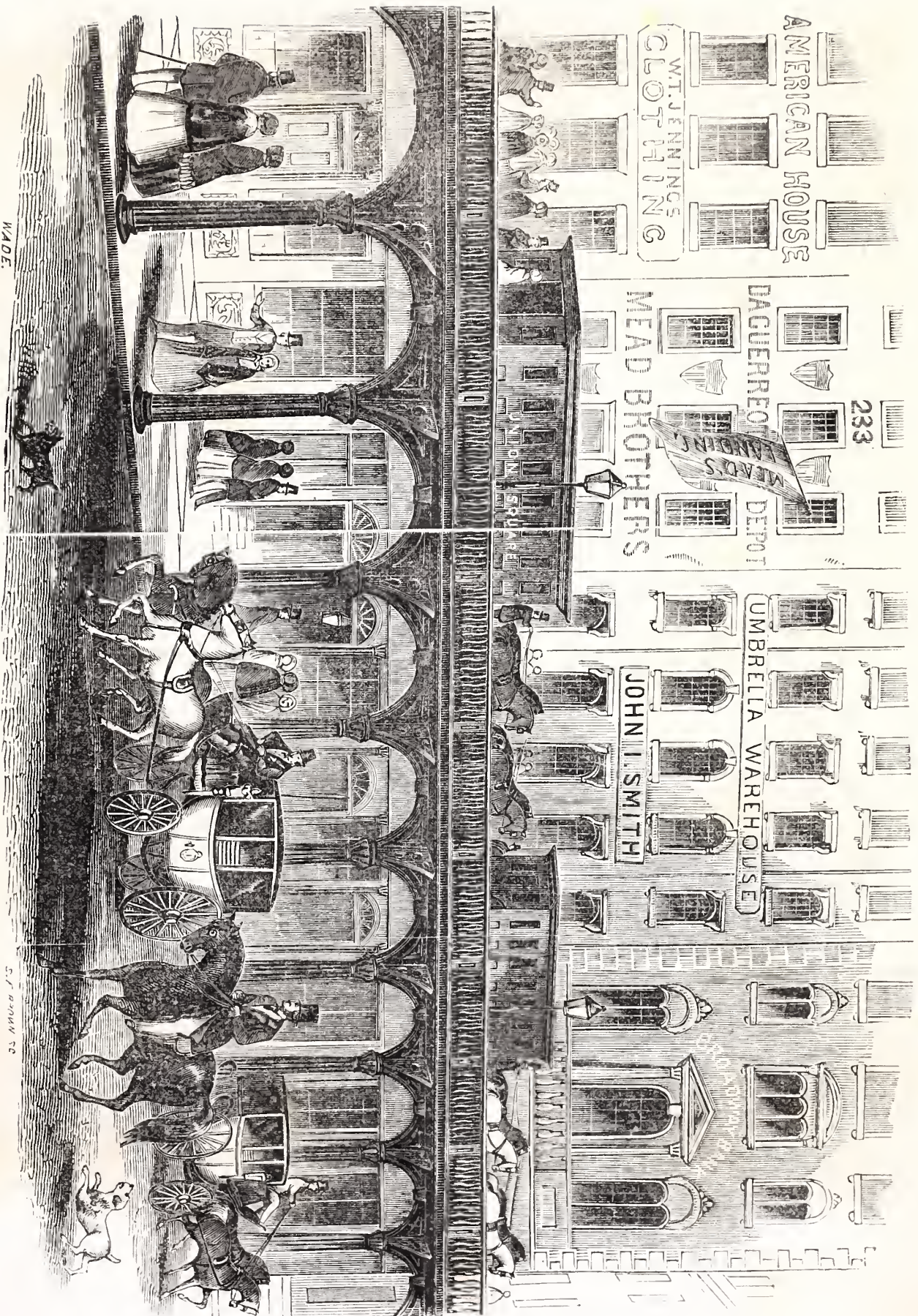
NIBLO'S THEATRE;—BROADWAY THEATRE, New York;—ST. CHARLES THEATRE;—NATIONAL THEATRE, Boston, &c., &c.

MRS. JUDSON'S GRAVE, at St. Helena.

STEAMERS PACIFIC, ARCTIC, GOLDEN GATE, BLACK WARRIOR, GOLDEN AGE, FLORIDA, AUGUSTA, ERICSSON, YANKEE BLADE, &c., &c.

Also, extensive orders have been filled for several Palaces in *Mexico*; also, *Cuba*, *Caraccas*, *South America*, *California*, *Australia*, *Africa*, &c., &c.

Hon. Geo. Bancroft, late Minister to England; *Hon. Wm. B. Lawrence*, ex-Governor of Rhode Island; *Wm. Aspinwall, Esq.*, of Howland & Aspinwall; *James Brown*, of Brown, Bros. & Co.; *Theodore Sedgwick, Esq.*, President Crystal Palace; *Mortimer Livingston, Esq.*, Bremen Steamers; *Auguste Belmont, Esq.*; *Messrs. Corcoran & Riggs*; *Gen. James Watson Webb*; *Anson G. Phelps, Jr.*; *Geo. L. Schuyler, Esq.*; *Dr. Alfred Freeman, C. B. Conant, Esq.*; *R. Bement, Esq.*; *Messrs. Bull, Black & Co.*; *Messrs. D. Appleton & Co.*; *Horace Greeley, Esq.*; *Jno. F. Ropes, Esq.*; *Alderman Herrick*; *Late A. J. Downing, Esq.*; *Philip Van Rensselaer, Esq.*; *Archbishop Hughes*; *Wm B. Astor, Esq.*; *F. H. Deland, Esq.*; *Jos. W. Alsop, Esq.*; *Judge Campbell*, &c., &c., &c.



J. B. WICKERSHAM'S PROPOSED ELEVATED RAILROAD TERRACE FOR BROADWAY, NEW YORK.

MADE.

S. J. BROWN & CO.

PROPOSED ELEVATED RAILROAD TERRACE FOR BROADWAY, NEW, YORK,
BY
JOHN B. WICKERSHAM.

Fig. 1.

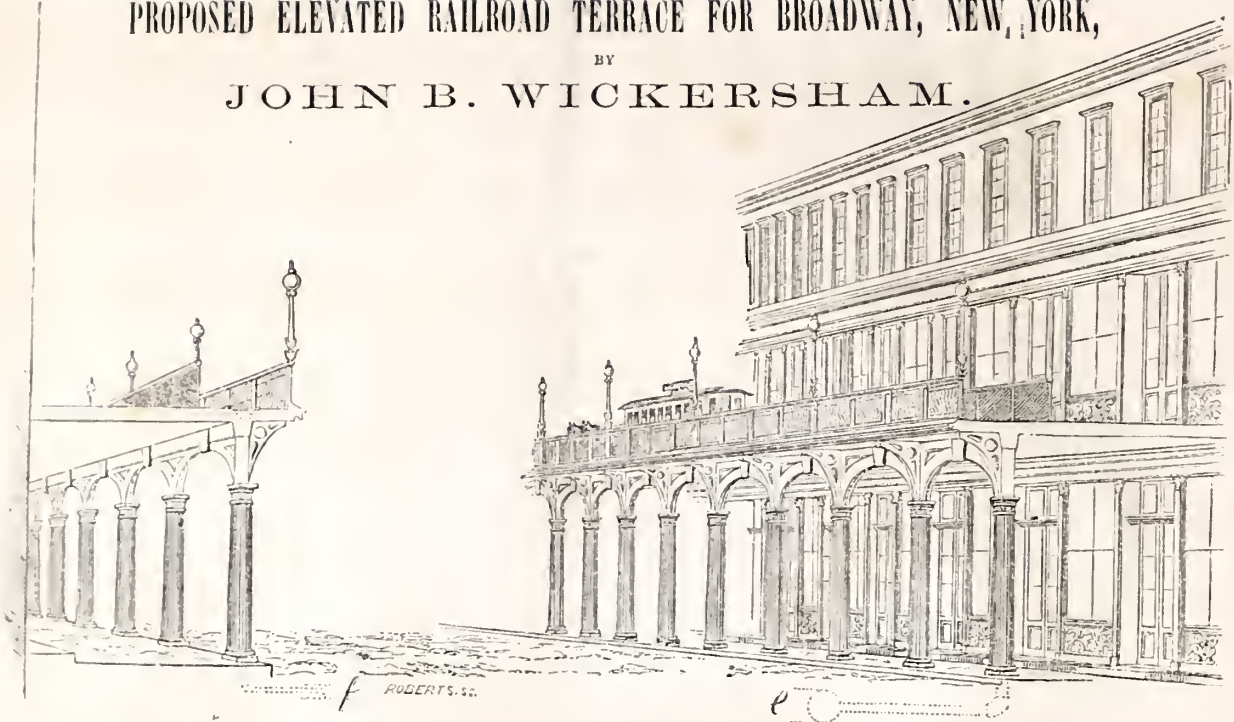


Fig. 2.

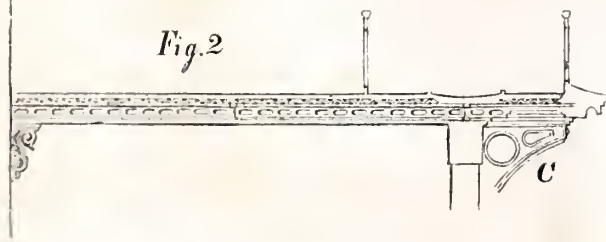


Fig. 1, is a Perspective View ;

Fig. 2, a Transverse Section ;

Fig. 3, is a Side View of the Supporting Columns ; and

Fig. 4, a Front Elevation of a portion of the Road.

A A. Columns on a line with the curb stone.

From the columns spring Longitudinal Braces B, and Transverse Braces C ; D, Iron Railings fronting the street.

Fig. 5, Longitudinal View of Roof over the lower sidewalk and pavement of the upper sidewalk.

a—Is Stone Flagging on Terrace.

b—Iron Gratings, on which the flagging rests.

c—Wrought-Iron Beams, supporting the grating and flagging, to which is attached

d—The Roof, over the lower sidewalk, of Corrugated Iron.

e & f, Fig. 1—Conduits of Water and Gas.

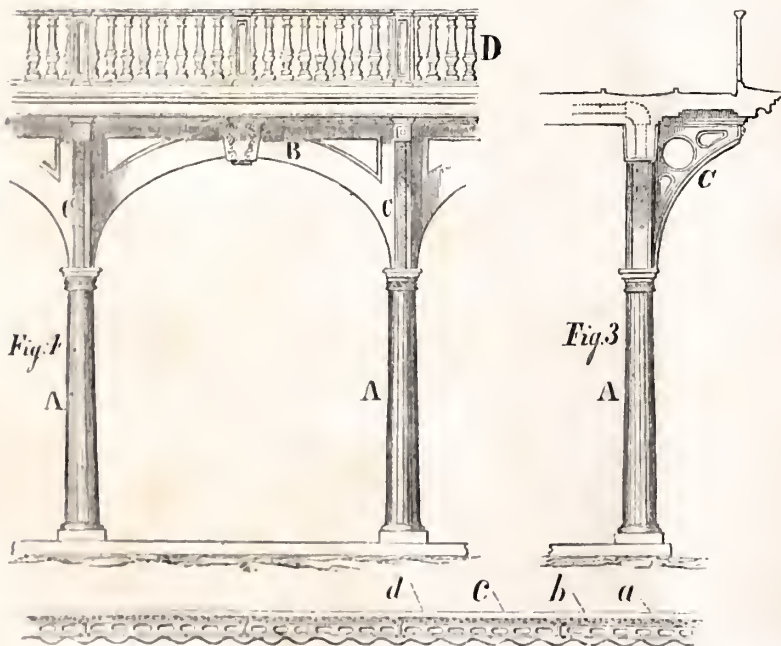


Fig. 5.

The plans for constructing an Elevated Railroad in Broadway heretofore presented, have all possessed some grossly objectionable feature, which rendered them impracticable in benefiting this world renowned thoroughfare. Some glaring impossibility has always suggested itself, to counteract whatever valuable idea each plan might contain. Had these projects been more suggestive of *real improvement*, and less fanciful in their details, the public would not have been so ready to exclaim against all plans for a Railroad in Broadway.

In my plan, I propose to build a Railroad, and an additional sidewalk over the present one, elevated to the level of the second story, and projecting in the form of a balcony, supported by columns planted on a line with the curb. This road and sidewalk are intended to occupy both sides of Broadway, connecting at the upper and lower termini by a continuous track, forming an Endless Railroad.

During the summer months, the travel will be *down* on the east side and *up* on the west side—and *vice versa* during the winter. This arrangement will shield the greater part of the community, in the summer forenoons and afternoons, in going to and returning from business; while, by reversing the order of travel for the winter season, the great majority of passengers will have the benefit of the genial warmth of the sun, both up and down town.

My plans of construction are, to make this terrace, with its columns and supports of iron, the sidewalks above to be formed of flag-stones, resting on woven iron gratings, supported by beams bound firmly together at the columns. The roof of the lower sidewalk will be made of corrugated iron, forming gutters on the upper surface for the passage of water to the main canal of the balcony, which is led off through the columns to the lower gutter. This corrugated iron can be so laid as to prevent water or dirt descending on the lower sidewalk, making it a perfectly water-tight covering. The columns will serve not only as conductors of water, but of gas, and will also answer the purpose of fire-plugs where they may be required, forming a double fire-plug, one above and another below, with two attachments to the same column. At every building, also, there would be a gas lamp above and below, producing a general and brilliant illumination.

The cars are intended to be run on the outside of the upper terrace, directly over the line of iron columns, so that the entire weight will be supported by their agency—thus relieving of all pressure from the weight of the cars the entire structure where it spans to the building. The cars will be drawn by horses, until some of the new plans are more fully developed for propulsion by atmospheric pressure, or otherwise.

The rails will be of iron, laid on India rubber, and supported by wooden sills, to remove the noise and jar, on the principle so beautifully illustrated by the *dipplæ* between the two tables of the human skull. The track for the horses will be laid with wooden blocks, as being calculated to produce less noise than the Russ pavement, which, however, could be laid here, if thought desirable.

The railing on the outer edge of the terrace will be strong and substantial; and a railing is likewise to be placed between the cars and the pedestrians, acting as a guard to prevent accidents by coming in contact with the cars— with openings at the end and middle of each block for the ingress and egress of passengers.

The crossings at the streets on this thoroughfare will be sprung with arches. At Canal and Chatham streets, there could be constructed inclined planes, of gentle slope, connecting with the various City Railroads; by such means all the Avenue Railroads would have direct communication with South Ferry. I also propose making transverse bridges at Fulton, Cortland, Wall, and other crowded thoroughfares—thus avoiding the present danger of being run over at the perilous points.

The stairways, for easy access to the upper terrace, can be arranged in the inside of the buildings. These landings would soon come to be known by the names of the occupants of the premises, as "Genin's Landing," "Brooks' Landing," &c., &c. This publicity will amply repay those through whose premises the landings may be reached. The Company can purchase the right of way through these localities, and the merchant can add to the facility by permitting his customers to make use of his stairway, in cases where the first and second floors are occupied by the same persons.

The height of this upper terrace will be on an average of about sixteen feet, so as to be adapted to the building of the latest construction. If the height of any building should not suit this average, it will be easy to make stairways of a few steps, either ascending or descending, as the case may be—these steps to be constructed inside the buildings, so as not to interfere with the sidewalk.

The present sidewalk is sixteen feet wide. I propose widening it above to nineteen feet, by extending it over the street three feet. This will give a clear width to the upper sidewalk of ten feet for pedestrians, and nine feet occupied by the track and the outside and inside balustrade. This will leave the upper sidewalk independent of the rail track, practically almost as wide as the lower one, when we consider the areas, stoops, cellar doors, basement entrances, &c.

Neither of these sidewalks will possess advantages over the other. While the lower one is a covered promenade, the upper one offers all the advantages of a railroad and promenade, and all the novelty of an elevated terrace, imparting an air of picturesque grandeur to our far-famed Broadway, and making it one of the most magnificent thoroughfares in the world, inviting and attracting strangers to behold the glory of the Empire City.

By dividing the distance between the Battery and the Crystal Palace into spaces of twenty-five feet, we have in all about two thousand fronts, including the crossings of the side streets. The cost of each front will be about \$1,500, making the whole amount for the Elevated Terrace Railroad, &c., about \$3,000,000. Each property holder is to take

an amount assessed upon the front of his premises, in a proportion sufficient to construct the terrace, and stock the road—for which amount he receives an equivalent in stock, which will always command the highest premium in the market. In this manner the road can be built, and will increase the actual value of property in Broadway alone not less than fifty millions of dollars, besides giving to the public in general a thoroughfare unsurpassed in the world in point of convenience, whether for walking or riding.

Some of the more practical advantages of my plan are, that it will relieve Broadway, by increasing the sidewalk facilities, increasing the means of public conveyance, not interfering with the omnibus interest, and doubling the capacities of Broadway for business and travel, forming an additional row of store fronts, on a level with the upper sidewalk on each side of the street, thereby increasing the rent of the second, third and fourth stories.

The plans of construction of this improvement are simple and easy. The structure can be built strong, durable, and ornamental, producing one of the grandest effects imaginable; and making Broadway the admiration and model of the whole world, by this combination of a continuous covered promenade and an elevated terrace.

All my ideas are practical, and founded on actual observation, measurement and calculation. The plan here submitted has already met the approval of many of the most respectable, intelligent, and influential property holders on the line of the proposed improvement. I have carefully and anxiously weighed everything that may possibly be brought to bear against it; and I candidly confess that I can see in the enterprise nothing but valuable and magnificent improvements. By the plans of construction I have adopted, every objection and every obstacle to this elevated terrace and road is removed.

The great mistake, as I conceive, of all who have written about "relieving Broadway" is, that they seek to remove a portion of its business and travel, instead of providing additional facilities, and thus *extending* and *increasing* the amount of that business and travel. Any man of common observation must see that the transformations going on in the lower part of the city—filling all the side streets, from Chambers down, with stores and warehouses, and driving the families up town, must enormously increase the amount of travel in Broadway; and it is this very fact, and the desire to keep the travel in Broadway, without choking it, that has given me the idea of doubling its facilities by elevated sidewalk and railroad.

It is just as necessary to give relief to the sidewalks as to the thronged streets. My object has been to use what we already have without incurring unnecessary expense in alterations, such as widening the streets, &c. This, if it were practicable, would only relieve temporarily in one place to harass in another. If there were no stoops, gratings, areas, or basements to obstruct the walk, it would perhaps present a different aspect. We want some improvement that will benefit all interests and embarrass none.

Sixteen feet will bring the Elevated Terrace among the majority of first floors. My desire is to see all future buildings erected with large and spacious room below, so as to attract attention from the brilliant display which would be occasioned by such an arrangement through the whole length of this magnificent street, and not to interfere with those who do or will occupy these floors. The parties on the second floor will be glad to have any respectable connection with the upper sidewalk, and would not be so particular as those below. As new buildings are put up, they would, of course, be arranged to this height; and eventually the upper sidewalks would be as showy as those below.

In some places in Broadway this structure would swallow up half the second story, and encroach on the third. In this case, remove the floor of the third story, and have a large and lofty room, with little expense, which will produce twice as much rent as both rooms now yield.

It is objected that my plan will exclude the light from the lower sidewalk, and make the stores too dark to transact business.

What are the facts about the light in Broadway? Is it not true that in the shop windows and inside the stores, it is now *too strong*, and that most all of our new stores are being built with express reference to modifying and tempering it, so as to show goods to better advantage? Many of the choicest and daintiest goods are now kept from being exposed to the public in the shop windows, because the light is *too strong*. It is well known that a large amount of goods are constantly being injured by the reflection of the sun's rays through the shop windows. Even in London, with its smoky, murky atmosphere, the windows of the shops are furnished with heavy curtains, and other contrivances are resorted to for the purpose of graduating and lessening the light. In Paris, the Palais Royal—the most splendid and fashionable shopping promenade in the world—is entirely covered in by balconies extending over the walks on all sides; and even here, many of the most brilliant shops adopt additional means of excluding the light. The whole of the fine *Contrada del Po*, the Broadway of Turin, is covered with massive stone balconies over the sidewalk.

If we think of it candidly for a moment, we shall see that the proposed Elevated Terrace will not diminish to any great extent the amount of light which now reaches the stores and sidewalk. Almost every store has an awning, some of them low, some high, and all excluding a great portion of light. These awnings, which are semi-opaque, are generally run down slanting, within eight feet of the sidewalk, and actually intercept a greater proportion of the rays of light than would be done by a horizontal balcony, sixteen feet from the ground. Any one can draw a diagram with a pencil that will prove this in a moment.

In a climate bright and brilliant as ours, where the intense sunlight prevents all the choicest goods from being exhibited, a balcony like those of the Palais Royal, and of Turin, is actually a great desideratum to shop-keepers; and in addition to the priceless blessing of a shelter at all times from the broiling sun and the rattling showers by which New York is characterized, I consider one of the greatest incidental advantages offered by my Terrace is this regular, constant, and equal modification of light which it will produce in the shops of the lower sidewalk.

Nothing is better than stone for pavements. It presents always the same grit, to create friction and prevent slipperiness, which is not the case either with iron or glass. The former will wear smooth and become slippery by constant use, while the latter is always dangerous to walk on, and always liable to fracture when exposed in large pieces. Glass also admits the light strongly, and is a condenser and intensifier of the sun's rays, as is illustrated by the construction of glass hot-houses. This would prevent that perfect shade for the lower walk, which we so keenly feel the want of in hot summer months. Nor would glass be sufficiently strong for the purposes intended.

JOHN B. WICKERSHAM,

312 BROADWAY, N. Y.

OPINIONS OF THE PRESS.

Hunt's Merchants' Magazine.

A number of plans have been suggested for facilitating the immense travel of Broadway, but we have seen none, so far as we are capable of judging, so well calculated to promote that object, as the one proposed by Mr. John B. Wickersham, an ingenious mechanic of New York. Its importance to the commercial and social interest of New York cannot be too highly estimated.

Scientific American, N. Y.

Numerous plans have been presented to the public within a short time past for an Elevated Railroad in Broadway; several of these we have illustrated for our readers. There is evidently a necessity for something of this kind, or so much interest would not have been manifested in the matter by the public. We once more present illustrations of a plan of this kind devised by J. B. Wickersham, the well-known iron railing manufacturer of this city. We have carefully examined this plan, and can commend it to our readers. It is certainly in every way preferable to any plan we have before illustrated and described.

New York Tribune.

We publish a plan for a Broadway Railroad, which our readers will find well deserving an examination. It is devised by a thoroughly practical man, Mr. Wickersham, the well-known iron manufacturer, and appears to us better than any of the schemes previously put forward. The people of the city will do well to look into it; we have heard of no scheme for the relief of Broadway, which so decidedly commends itself to consideration.

American Courier, (Philadelphia.)

We are happy in being able to present our readers with the accompanying sketches and diagrams of the proposed Elevated Railroad for Broadway, New York, by J. B. Wickersham, to which we have frequently alluded, as offering, in our opinion, the most acceptable plan of any that we have examined. It will be seen to afford, in addition to its other merits, a perpetual shelter to pedestrians against the drenching storms or scorching suns of our climate, similar to the street-arcades of many of the cities of the old world. Its novel beauty will not be the least of its attractions, as may be seen at a glance, and the street is left entirely free from the ordinary pleasure or business operations of the city.

New York Courier and Enquirer.

Having great confidence in Mr. Wickersham as a practical mechanic, we have examined his drawings and plans with no ordinary care and satisfaction. The result is a conviction that his plan is not only feasible, but that it will in fact add largely to the value of property on Broadway.

New York Morning and Evening Express.

It provides so many advantages to everybody, and so little damage to anybody. We earnestly commend this plan to the attention of all the holders of property on Broadway, and in thinking of it must reflect that the time is rapidly coming when Broadway must have some other vent than it now has. As something has to be done, is not this the very best plan? The public at large, no doubt, would be largely benefited by such a road; and would not the Broadway property holders be benefited also? Again, what commends this plan is, that it interferes in no way with the omnibus interest, private carriages, or passengers on that great thoroughfare.

Home Journal, N. Y.

Anything that tends to the correction of nuisances—especially if at the same time it ministers to the public convenience—has our decided and warm support. We think, and after careful deliberation, that one of the most important of the means available for reform, is the plan proposed by Mr. J. B. Wickersham, for an elevated terrace, with railroad and sidewalk over Broadway on each side.

Sunday Dispatch, N. Y.

Mr. Wickersham's plan obviates the objections against all previous plans, and is really a practicable and desirable method of relieving Broadway, doubling the value of real estate, and adding immensely to the facilities of the public.

Sunday Atlas, N. Y.

It possesses the entire merit of originality of conception, and is worthy of the consideration of men of science, genius, enterprise, and capital.

Sunday Times, N. Y.

A plan of a second-story Railroad in Broadway has at length been hit upon that will find great favor, and perhaps lead to the construction of this novel and picturesque illustration of a *City multiplied by itself*.

Day Book, N. Y.

It is just one of those magnificent and startling enterprises congenial to the present age, and which New York is the only city in America sufficiently important and wealthy to adopt.

The Sachem, N. Y.

An Elevated Railroad and Sidewalk in Broadway is presented under such auspices, and in so rational and logical a shape, as to obviate the objections heretofore made against every plan of the Road. We see nothing so feasible as this plan of Mr. Wickersham's.

NEW YORK, MARCH 13TH, 1854.

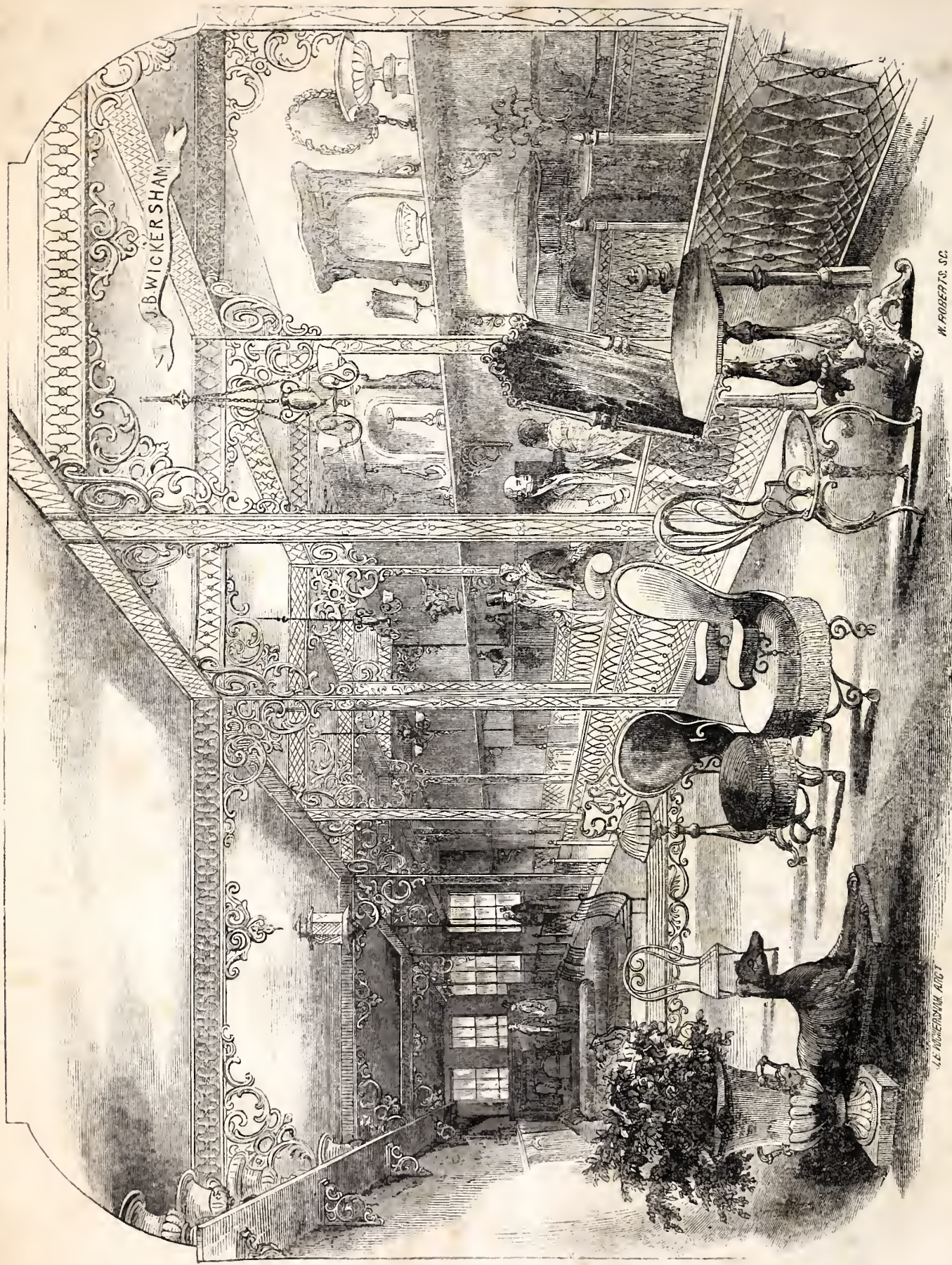
MY DEAR SIR:—I have devoted considerable time and attention to your circular in relation to an **ELEVATED RAILROAD TERRACE IN BROADWAY**. I feel convinced that it is just the thing that is needed, and that it is the only feasible plan yet suggested.

I own some two hundred and fifty feet frontings in Broadway on several locations, and would take my proportion of the stock; in fact, I regard the stock as one that would soon command a high premium.

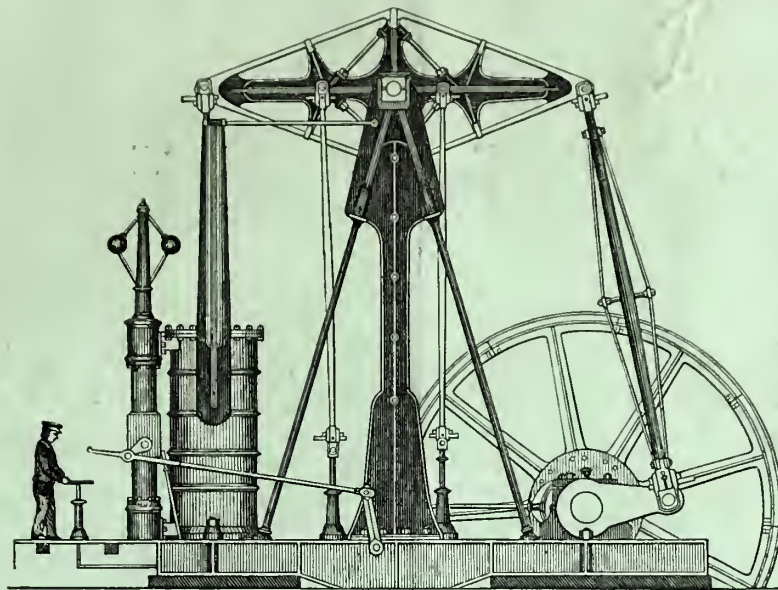
Yours truly,

P. T. BARNUM.

To J. B. WICKERSHAM, Esq.



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